Reporte Mensual de Inspección a la Presa y Reporte de Instrumentación

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Resumen

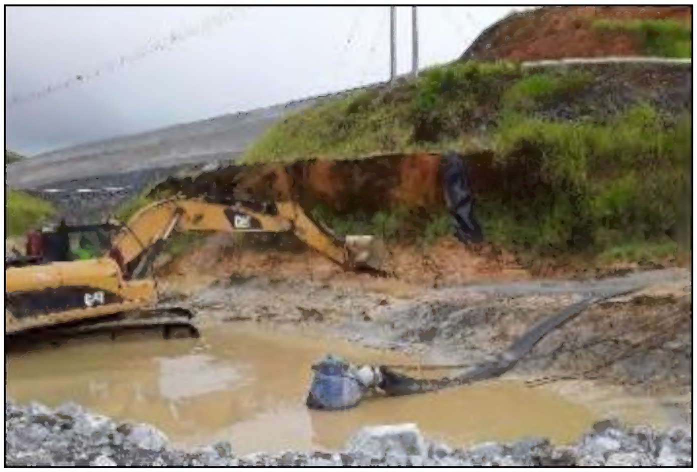
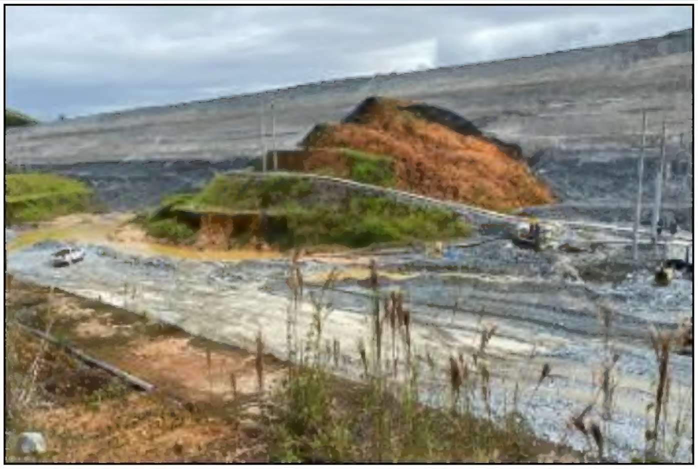
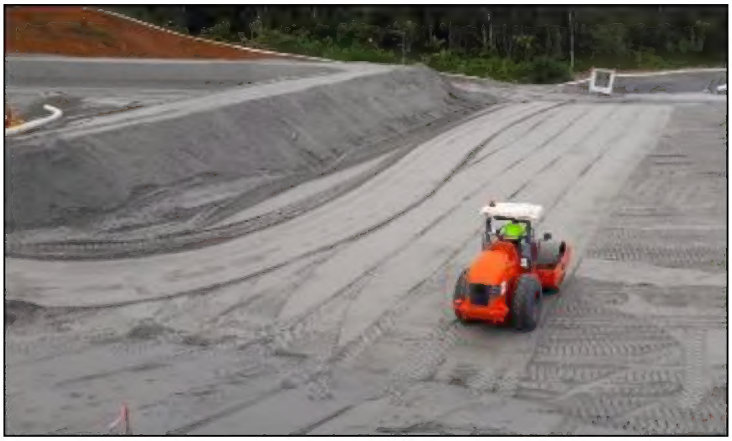
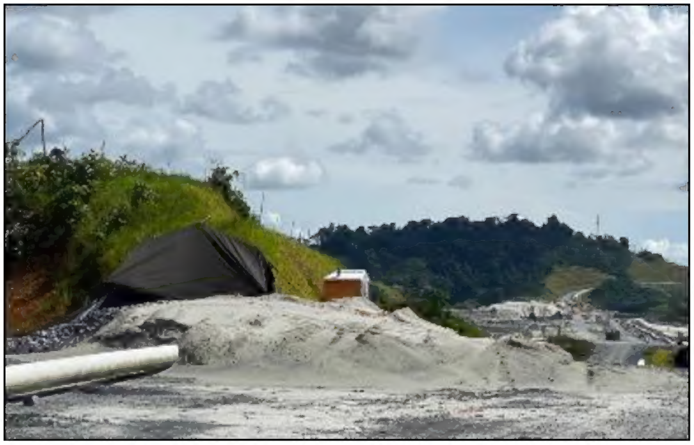
Inspección Mensual de Presas

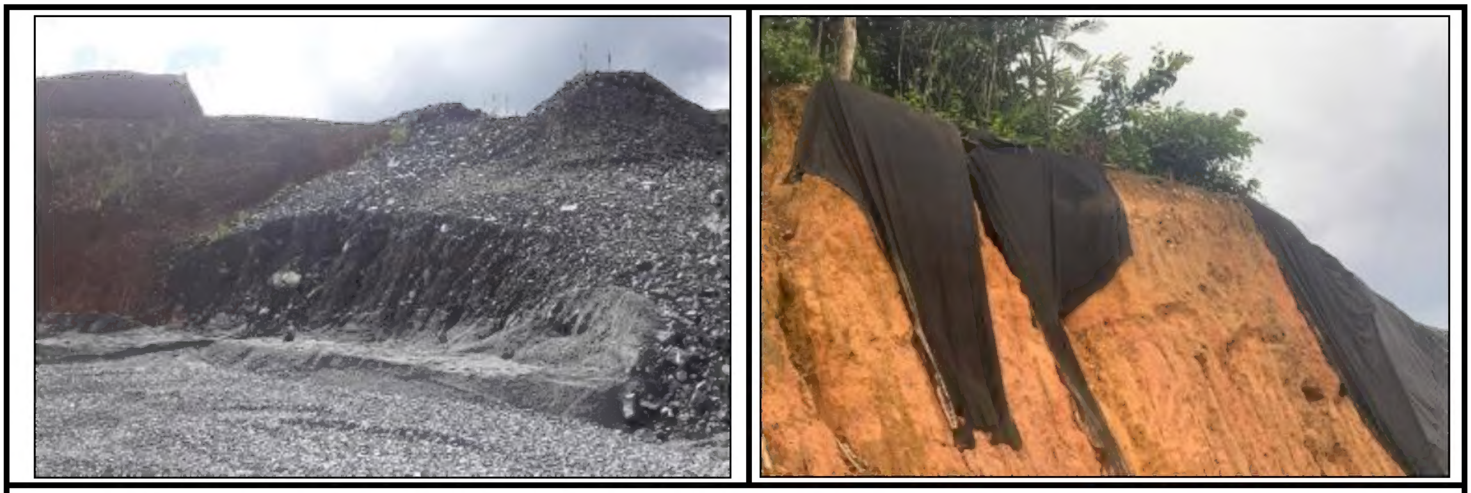
1. Se limpió el Canal A y se colocó la zona 7.
2. En el área de decantación y barcaza, partes de las laderas del sureste están desprotegidas y con erosión con evidencia de socavación. Los taludes deben ser geo-textil o hidro-sembrados nuevamente.
3. En el sector 4, debido al inicio de las descargas de relaves aguas arriba, se ha observado filtración aguas abajo. Se le da seguimiento cada 4 días (Lectura fotográfica e instrumentación). La zona 3 se ha colocado en la pendiente.
4. Sector 4, la zona 9 fue colocada en las celdas 27 y 26.
5. Se puede ver algunos espacios de agua estancada en el Dique 8, aguas arriba.
6. El material acumulado por fugas de relaves en las tuberías puede verse en el Dique 1.
7. Se observó vegetación típica en la Presa Este. Excesiva vegetación puede camuflar potencialmente cualquier señal de inestabilidad. Se deben practicar buenas normas para remover el crecimiento regularmente.
8. La entrada del aliviadero y del túnel se han encontrado desordenadas (materiales de desecho).
9. El túnel y la escollera del canal oeste no cumplen con las especificaciones y en el lado más fino. Hay una probabilidad de que sean arrastrado durante un evento de lluvia y las paredes de concreto del canal de salida están incompletas; con evidencia de malla de refuerzo expuesta.
10. En la tubería de decantación hacia la carretera de la costa se observa erosión por lluvia en la superficie lo que puede conducir a desestabilización en las fundaciones de la tubería. Limpiar la vegetación periódicamente (cada 3 meses), con esto se pueden ocultar algunas irregularidades de las fundaciones y de las tuberías.
11. Erosiones menores debido a la lluvia, en las laderas de las celdas ED WRP#1 y WRP#3, se repararán después.
12. En la tubería de decantación hacia la carretera de la costa, zanjas obstruidas por sedimentos, vegetación y grava. Se ha observado deterioro en los cimientos de las tuberías.
13. En la tubería de decantación hacia la carretera de la costa, se observan erosiones sobre las laderas cerca de las tuberías.
14. Sedimentos arrastrados por la Lluvia de arena y saprolita en la cresta de la presa Este y Norte.
15. En el sector 1, aguas abajo, debido a la fuerte lluvia, las laderas están erosionadas.
16. A lo largo de la corriente aguas abajo, en el Sector 1, 2 y 3, se continua la reparación de la erosión del talud (Arena y Zona 3).

Instrumentación Mensual

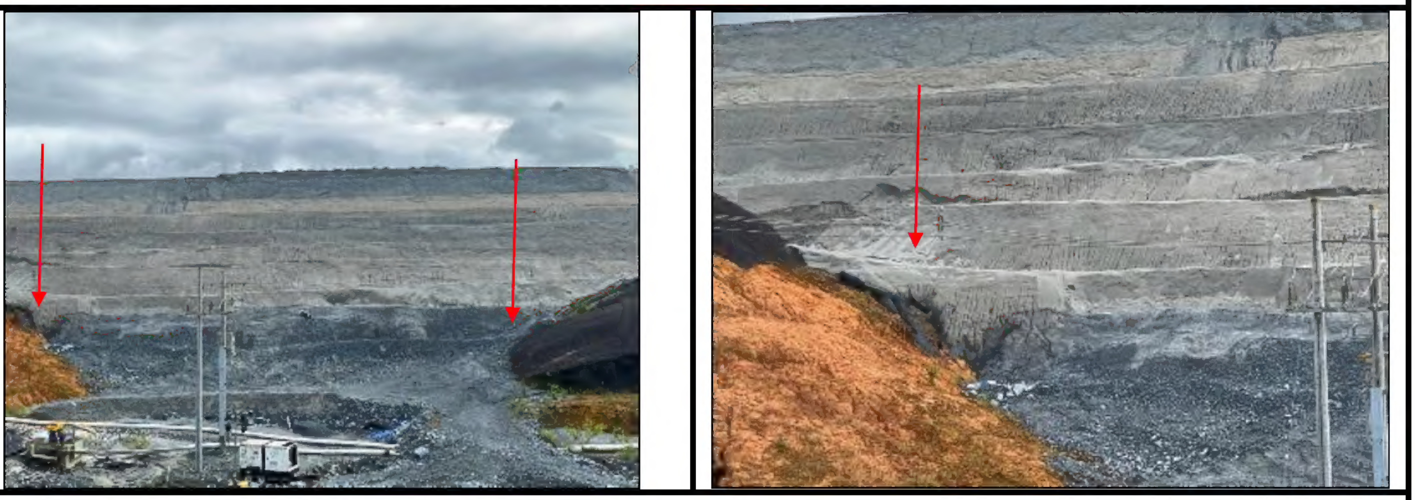
1. Señales de precaución en instrumentación ND & ED
2. El VWP y las celdas de Asentamiento están siendo monitoreadas cada cuatro días en el Sector 4, debido a las descargas de arena de relaves que se realizan en la sección aguas arriba.
3. Remplazo de instrumentos, por aquellos instrumentos que han sido dañados o que presentan algún tipo de defecto.
4. Inclinómetro I73-1 obstruido, no permite lecturas después de 14 metros de profundidad. El equipo de Jon no pudo desbloquear el tubo del inclinómetro ya que la obstrucción era muy profunda. Puede indicar que hay algo sólido abajo, posiblemente la pared de la tubería ha colapsado. Se incluirá en la lista de instrumentos para reemplazo.
5. El piezometro de la celda 15 cerca de la cresta está cubierto por arena. Fue localizado y reparado.
6. Las celdas de asentamiento S73-1 y S84-3 no registraron lecturas.

Fotos de inspección en la Presa Norte ND

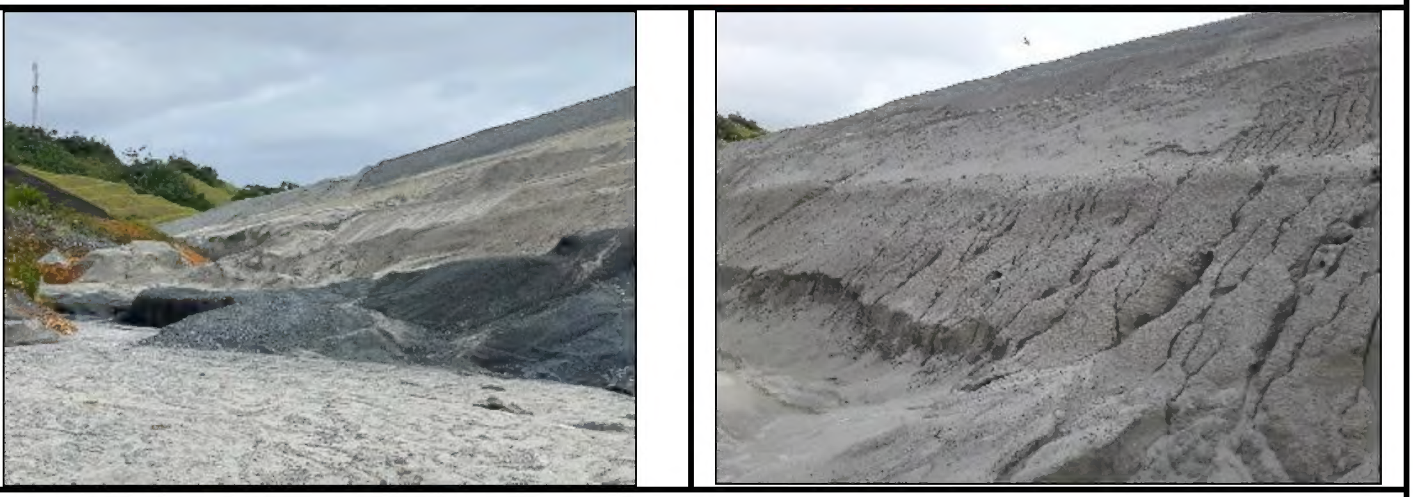
<table>
<tr><td colspan="2">Confluencia del canal A/ B: La Lluvia fuerte ha ahogado y ha causado que los canales se retracten y se prevenga un posible daño a las cunetas.</td></tr>
<tr><td></td><td></td></tr>
<tr><td>NDS4 Aguas abajo: Colocación hidraulica y mecanica de arena en celdas 26/27</td><td>NDS4 US: Bulto bajo flujo en la Carretera de las uniones de las tuberías; Permanece igual</td></tr>
<tr><td></td><td></td></tr>
<tr><td>Filtrado NDS4 D/S : Filtrado no identificado debido a la interrupción de la excavación. Y a las correrías del agua lluvia. Áreas bajo investigación por el geotécnico provisional de FQM. Monitoreo por instrumentos cada 4 días (reporte fotografico)</td><td>NDS1 D/S: Erosión de la ladera a consecuencia de la lluvia Se mantiene igual</td></tr>
</table>



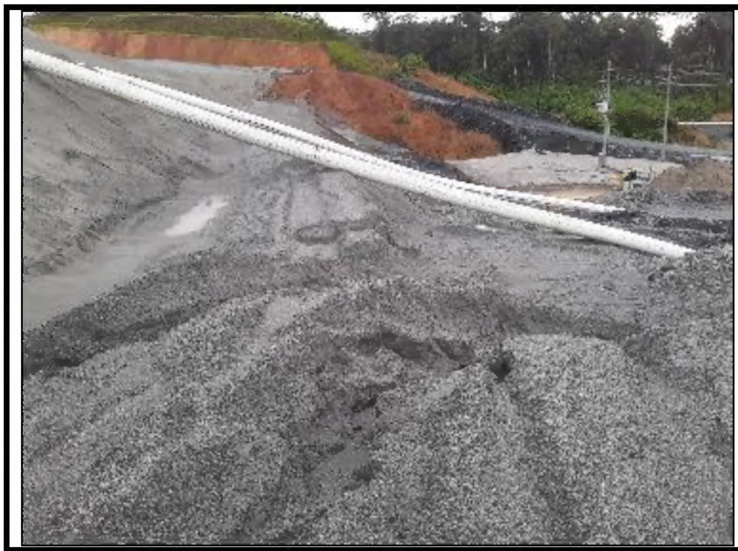
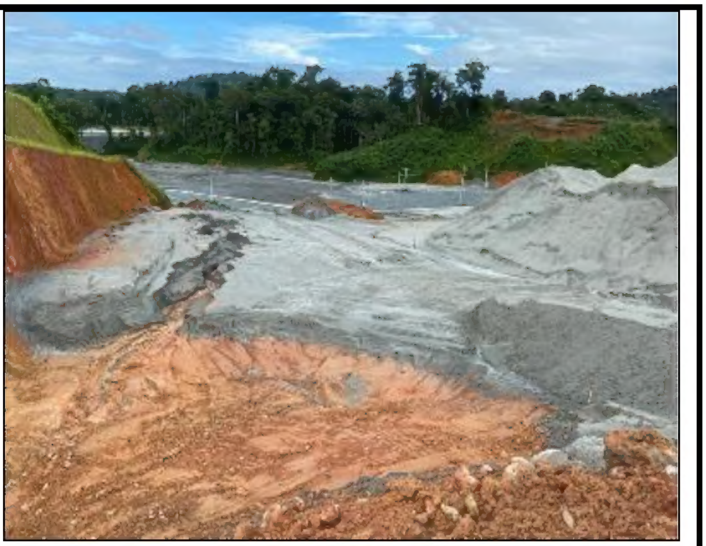
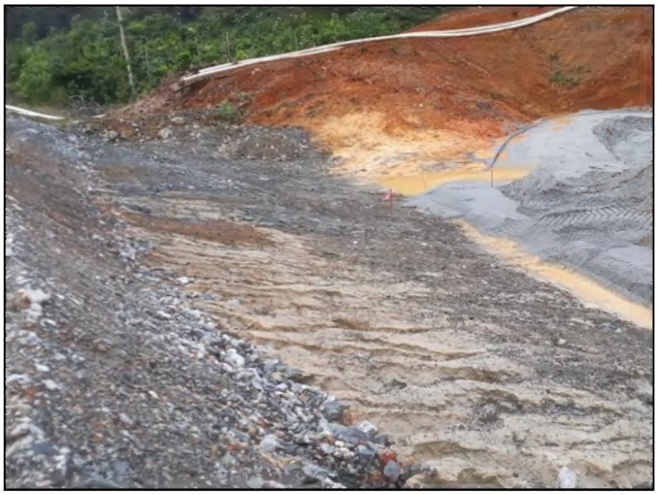
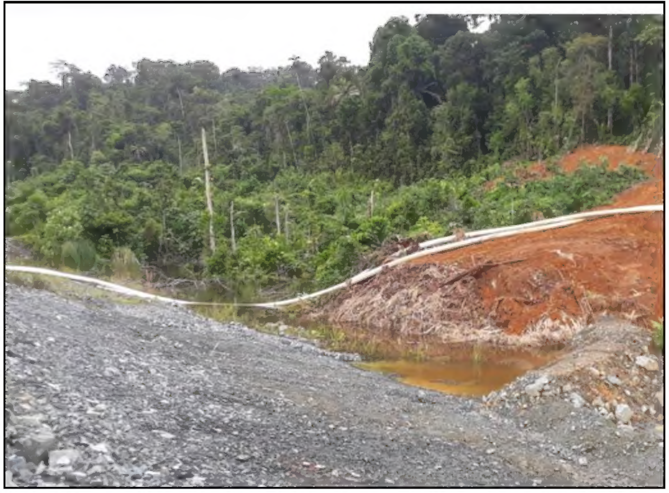
NDS1 Celda 09-10-11: Manta de Filtración, erosión en la zona 3 y arena resultante de las lluvias todavía está presente. Pendiente.



NDS1 Celda 05/06/07: Manta de Filtración, erosión en la zona 3 y arenas resultantes de las lluvias y de las descargas de las tuberías. Continua la reparación…



NDS3 Celda 21 Aguas abajo: Lluvia fuerte ha chocado con el polvo fino, la zona 3 y la erosión por arena.

<table>
<tr><td></td><td></td></tr>
<tr><td>NDS1 Celda 09: Manta de Filtración, erosión menor de la zona 3 y arenas resultantes de las lluvias.</td><td>NDS3 Celda 21: Manta de Filtración, erosión menor de la zona 3 y arenas resultantes de las lluvias.</td></tr>
<tr><td> </td><td> </td></tr>
<tr><td colspan="2">NDS4 D/S Aguas Abajo: Correrías del rio existente.</td></tr>
<tr><td></td><td></td></tr>
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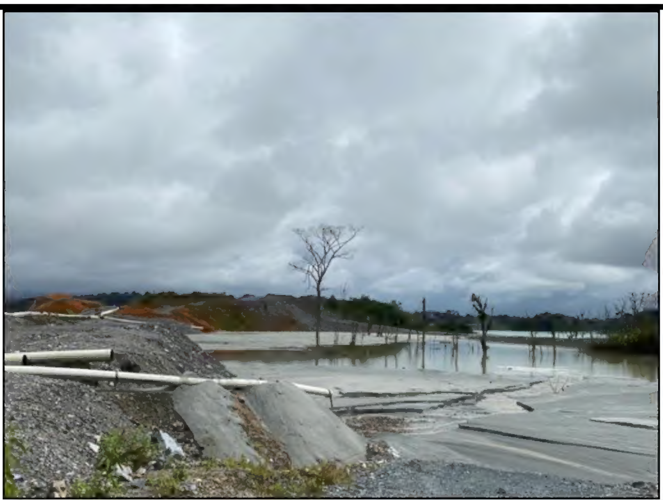
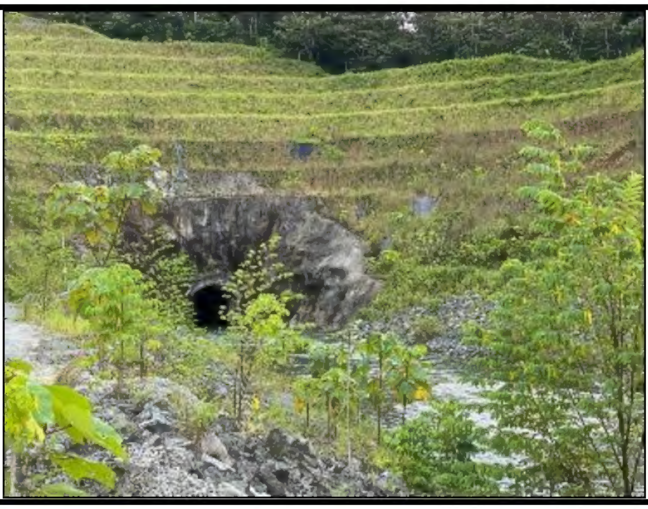
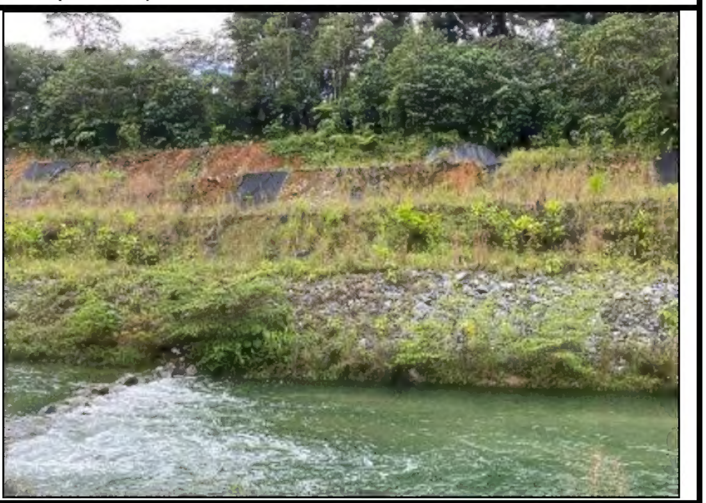
NDS4 Aguas Arriba: Descargas de relaves de arena



Túnel

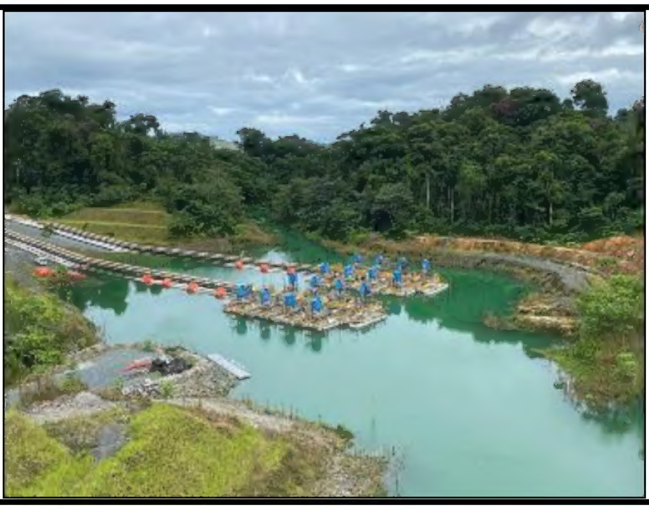
(La escollera del canal del oeste no está a especificación y sobre el lado del polvo fino. Hay probabilidad de que se lave durante un evento de lluvia y las paredes de concreto del canal de salida están incompletas; con evidencia de que la malla de varilla está expuesta.)

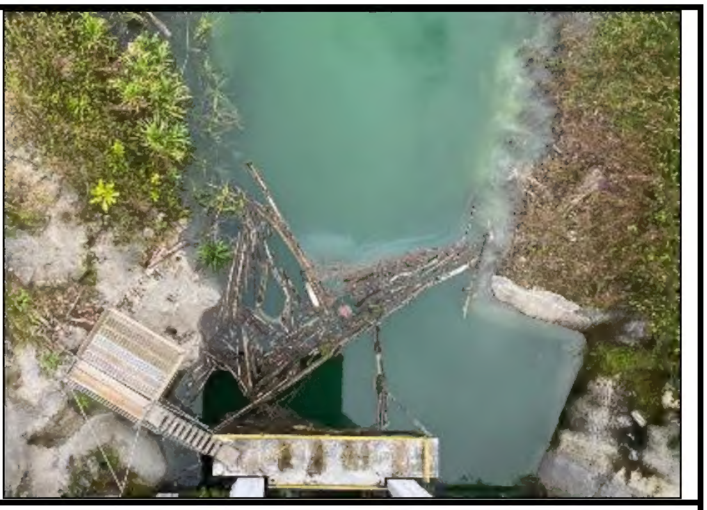




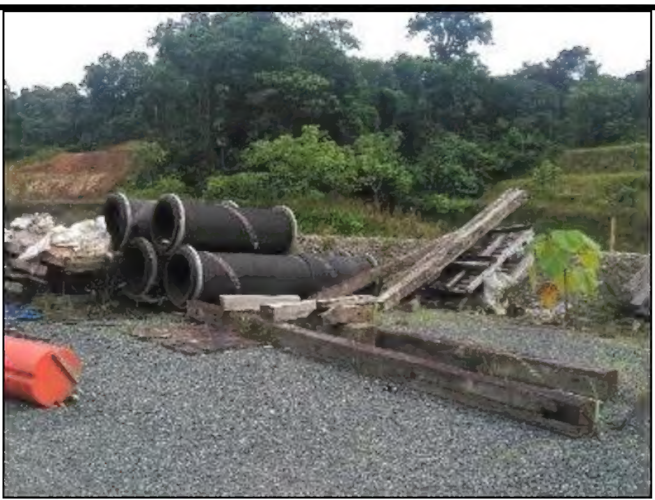
Aliviaderos

(Se observaron unas tucas flotando en la entrada de la torre y erosión en la pendiente sur; se requiere de hidro semillas.)



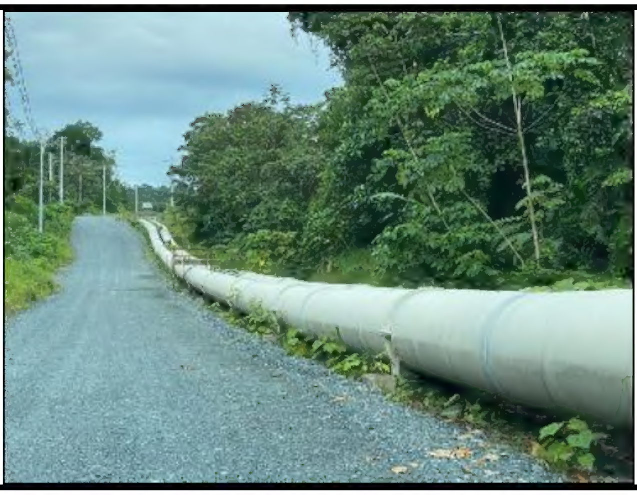


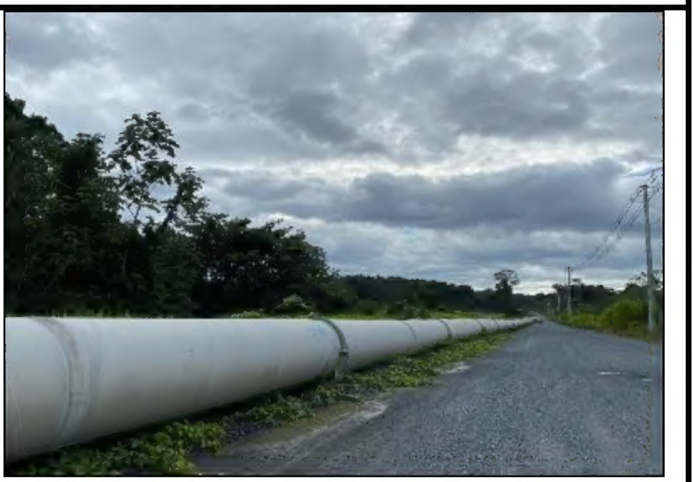
Se ha encontrado que el Aliviadero y el área externa del Túnel están descuidados (materiales de desecho)



Tubería de decantación hacia la Carretera de la Costa

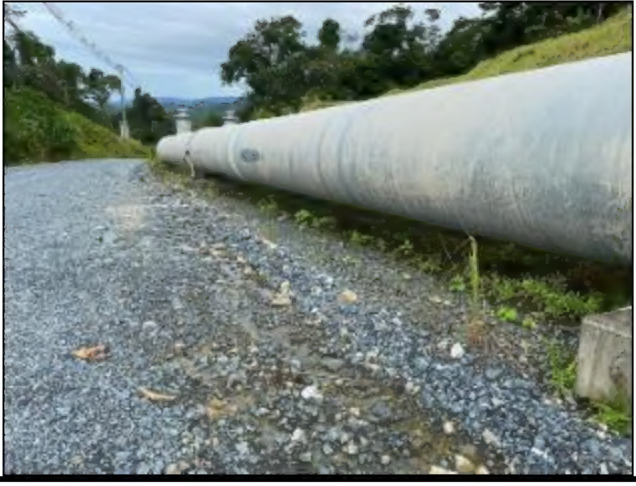
Limpiar la vegetación periódicamente (cada 3 meses), esta puede esconder algunas irregularidades en los cimientos y en las tuberías.

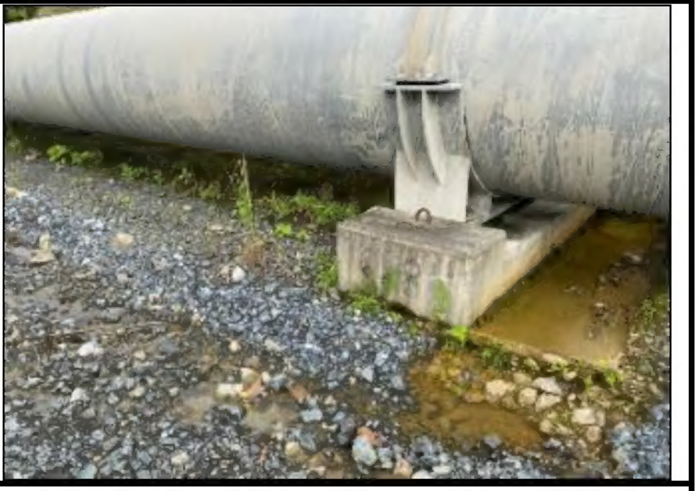




Tubería de Decantación hacia la Carretera de la Costa

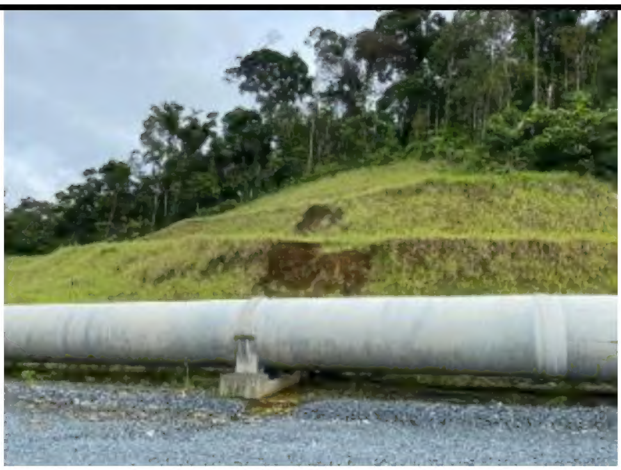
La erosión de la superficie por lluvia puede llevar a desestabilizar los cimientos de la tubería.



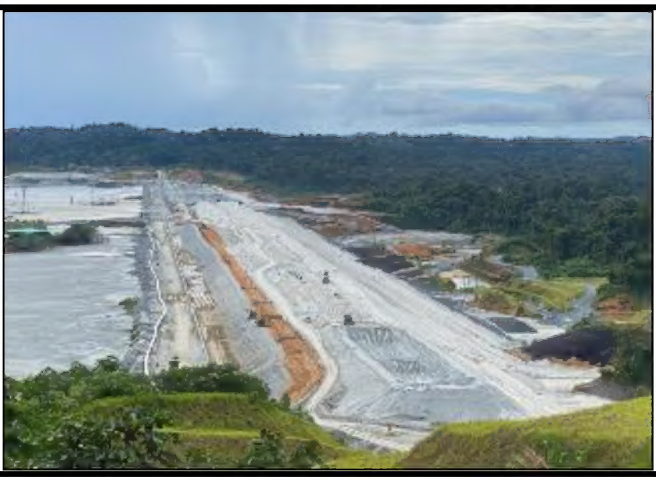


Tubería de Decantación hacia la carretera de la Costa

Erosión de la pendiente a lo largo del camino de la tubería.

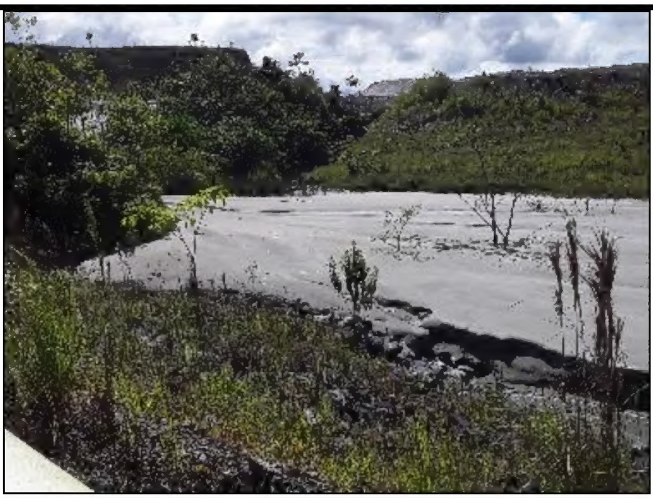


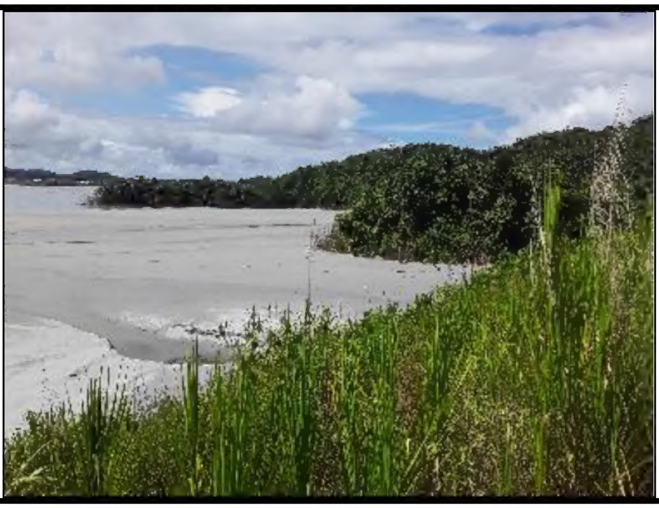
Vista: Presa Norte Sector 1-2



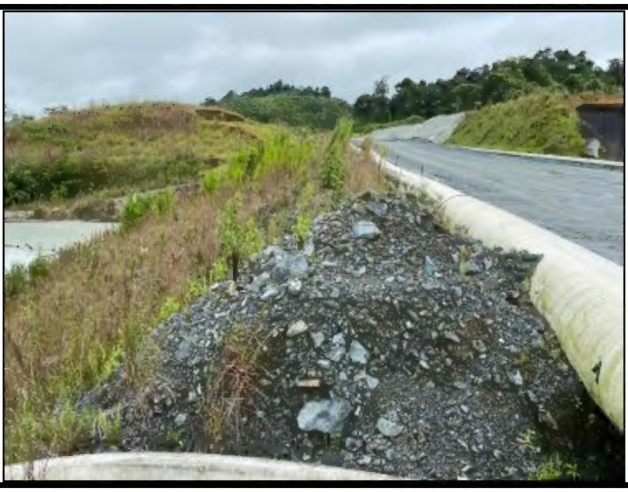
Fotos de Inspección en la Presa Este ED

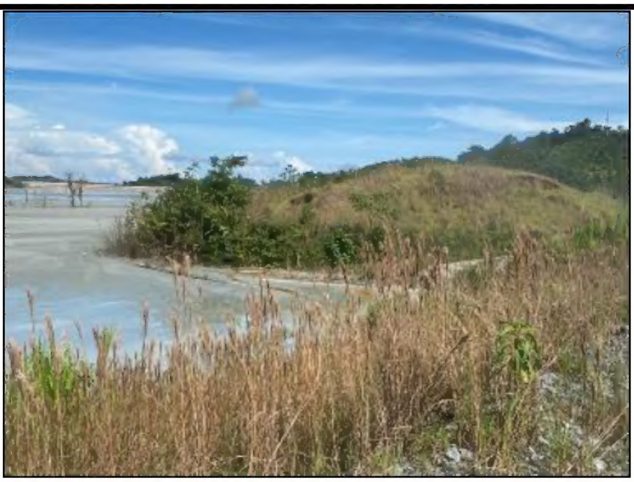
EDS D1 & D2 US: Excesiva vegetación que pudiera camuflar potencialmente cualquier signo de inestabilidad. Se debe ejecutar buenas prácticas para remover el crecimiento regularmente.





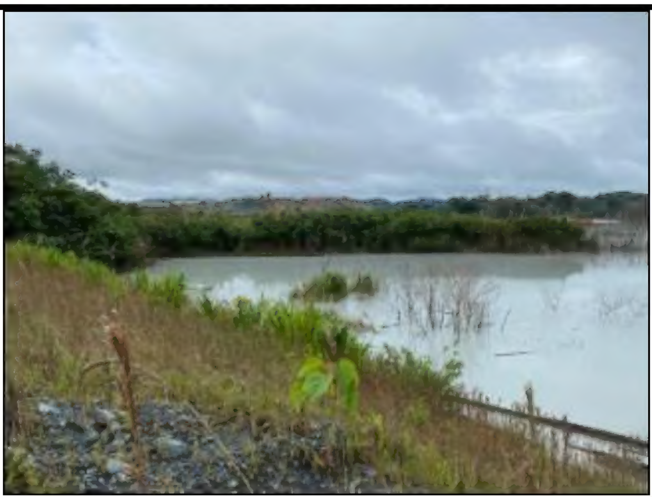
EDS D3 & D5 US: Mucha vegetación excesiva que potencialmente pudiera camuflar cualquier señal de inestabilidad.

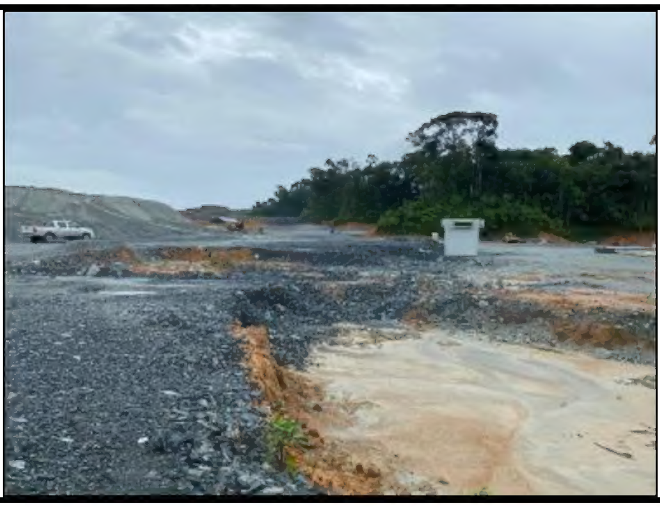


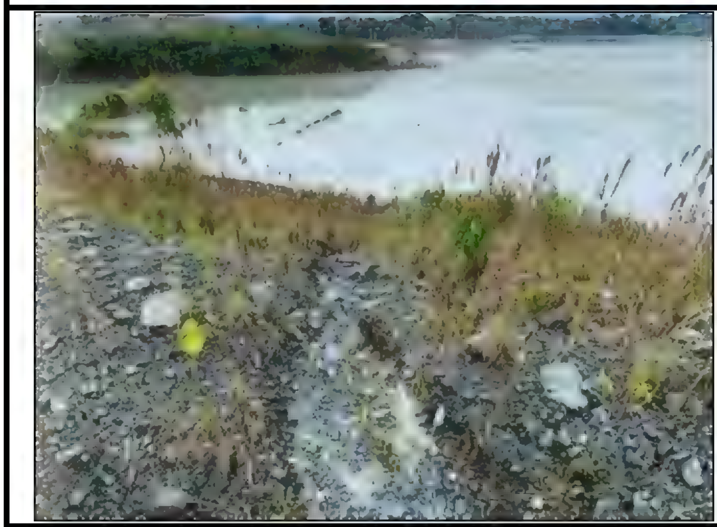
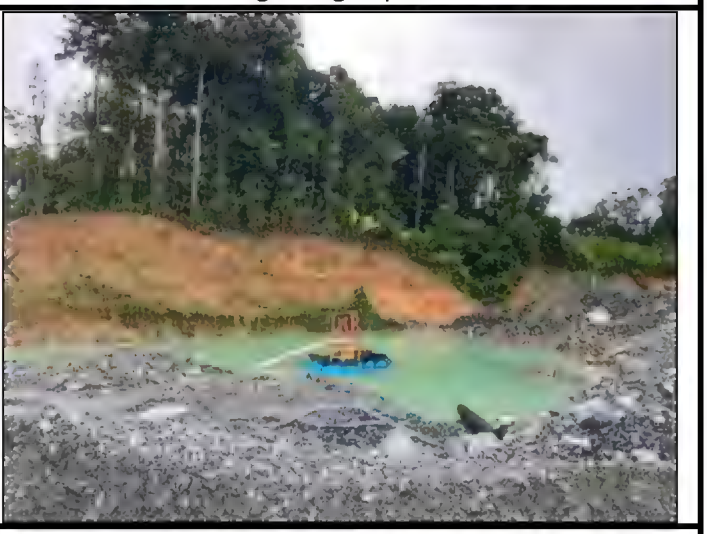
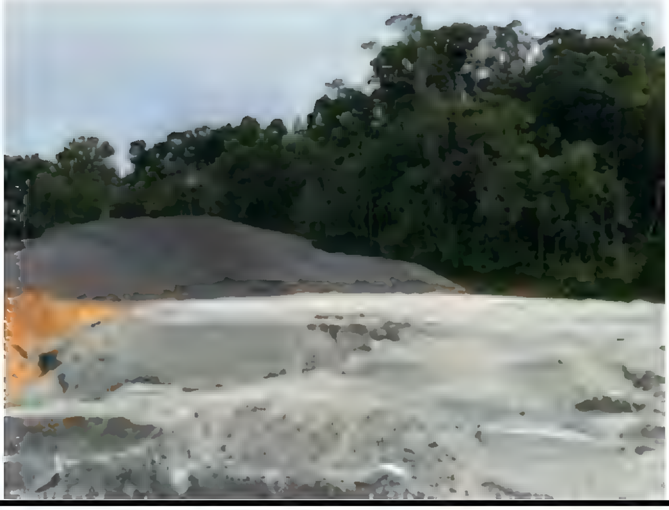
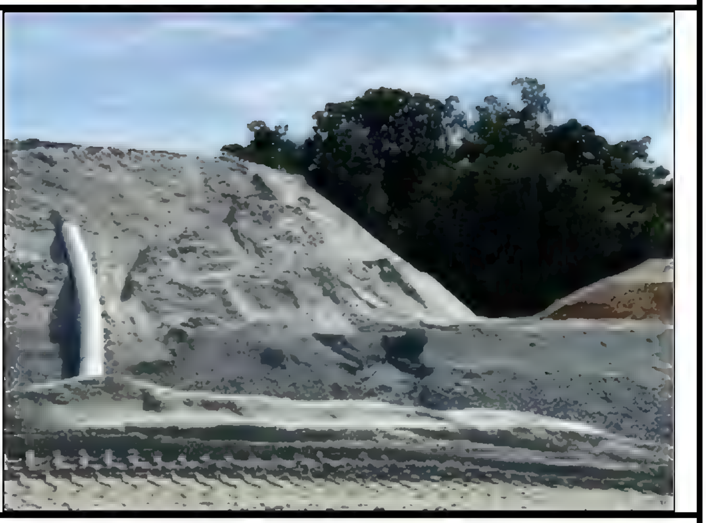
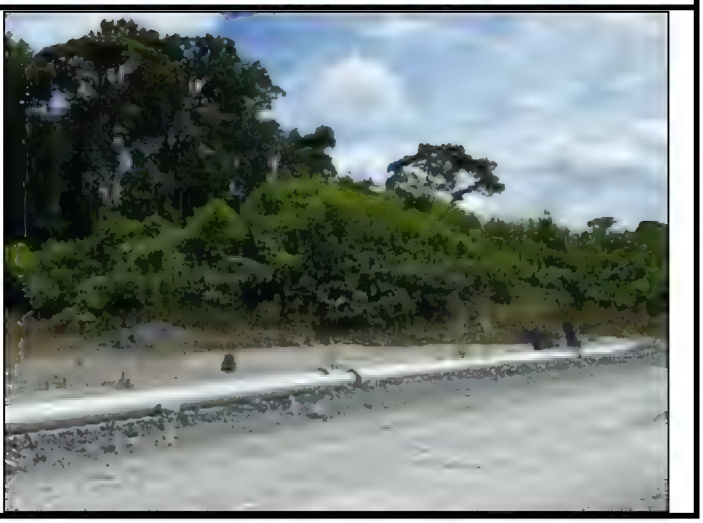


EDS D3 US: La cara contraria del pozo de agua con 1.5 m libres. Nótese que no hay pendiente d/s. La presa colinda con un terreno natural.

EDS D7 DS: Excavación existente del terreno natural que necesita limpieza para después llenarlo de material.

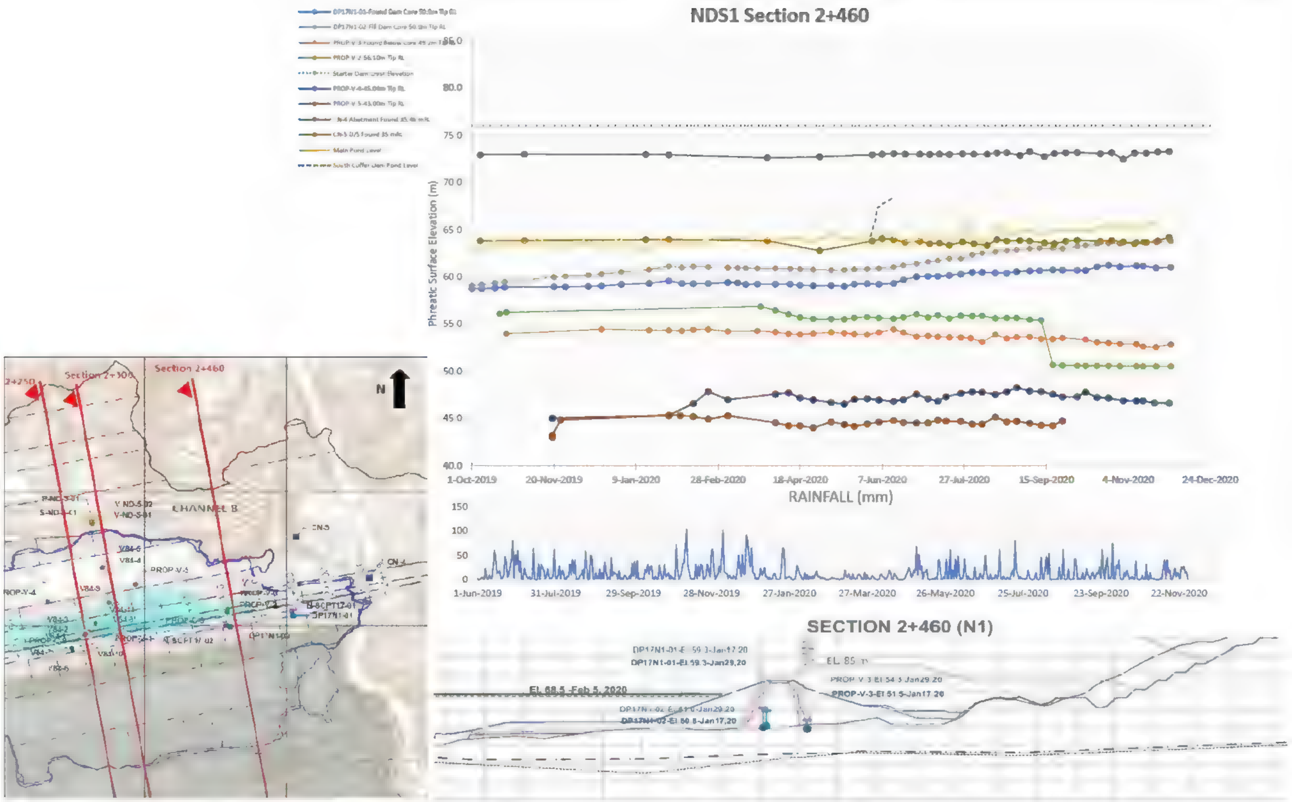


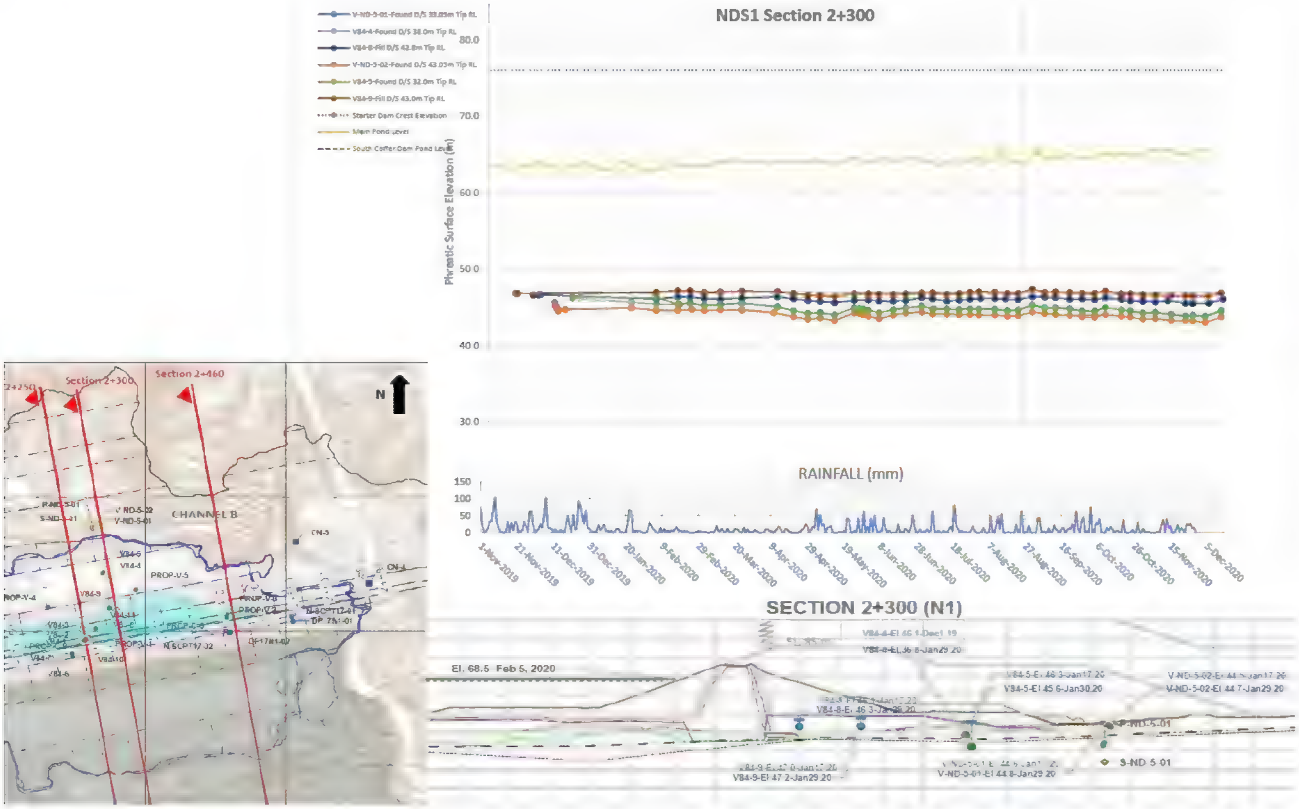


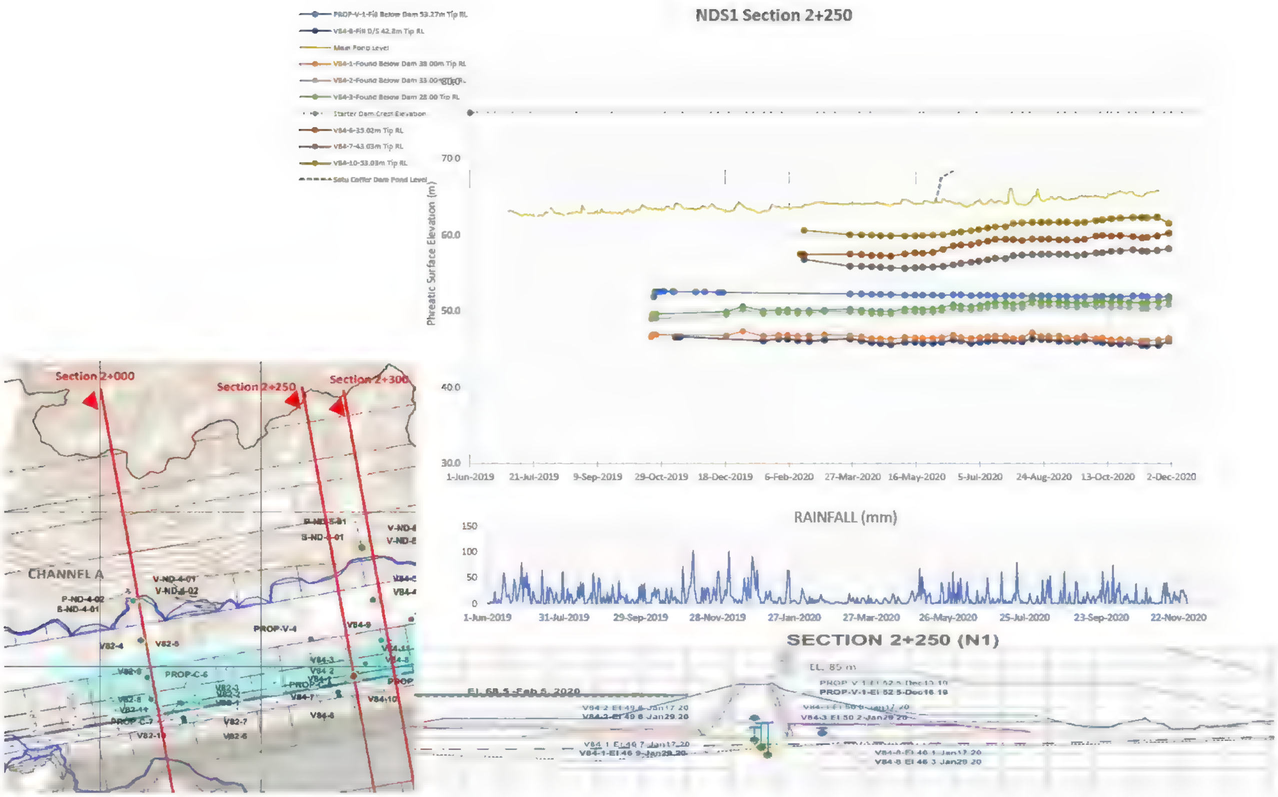
EDS D3 US: Erosión en la pendiente aguas arriba como resultado de las lluvias.	**EDS D9 DS:** Problemas de drenaje en esta sección, extraiga el agua y rellene.
	
EDS D8 DS: Manta de filtración. Erosión en la zona 3 y arenas, resultante de las lluvias y descargas de las tuberías está presente.	**EDS D7 DS:** Manta de Filtración, la erosión en la zona 3 y arenas, resultante de las lluvias está presente.
	
EDS D3 US: Llenado de material en el agua corrientes arriba, para protección de la pendiente.	**EDS D1:** Filtración en la tubería con material de deslaves, sobre la superficie.
	

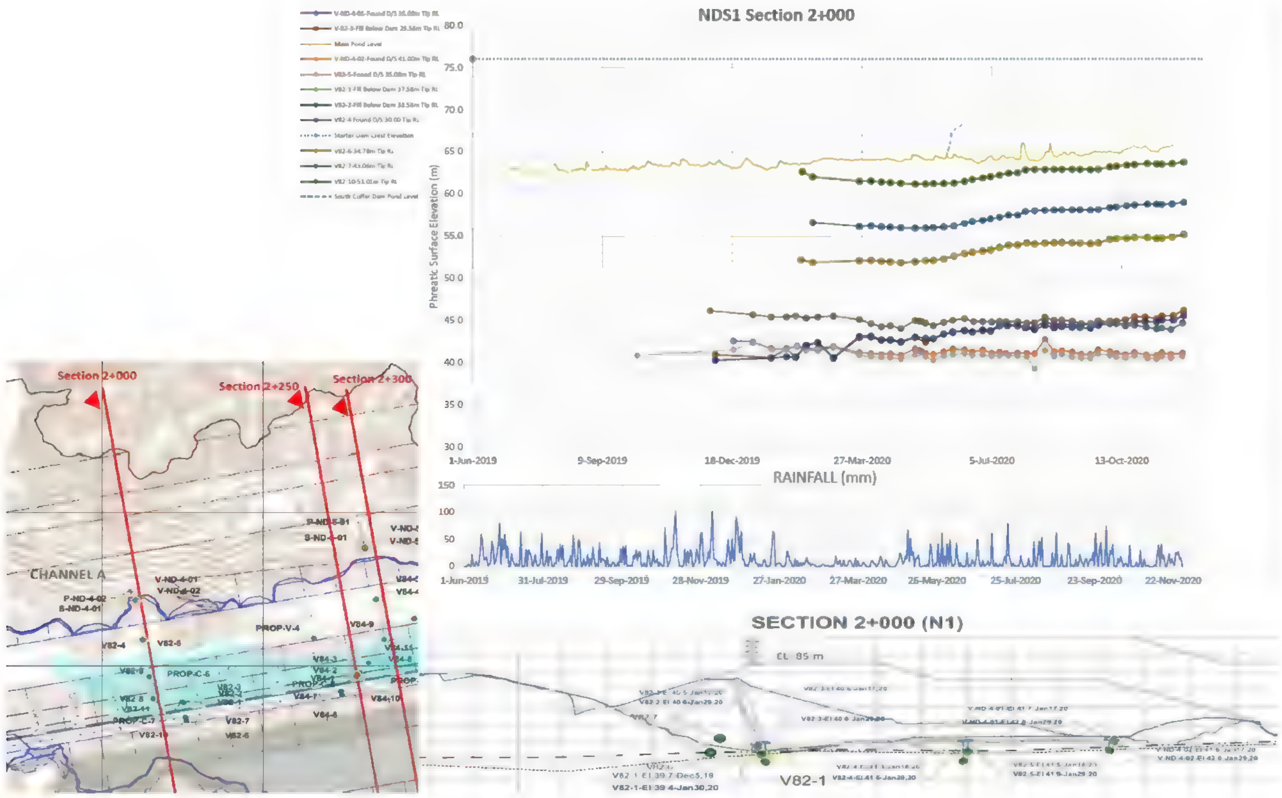
VWP y Casagrande

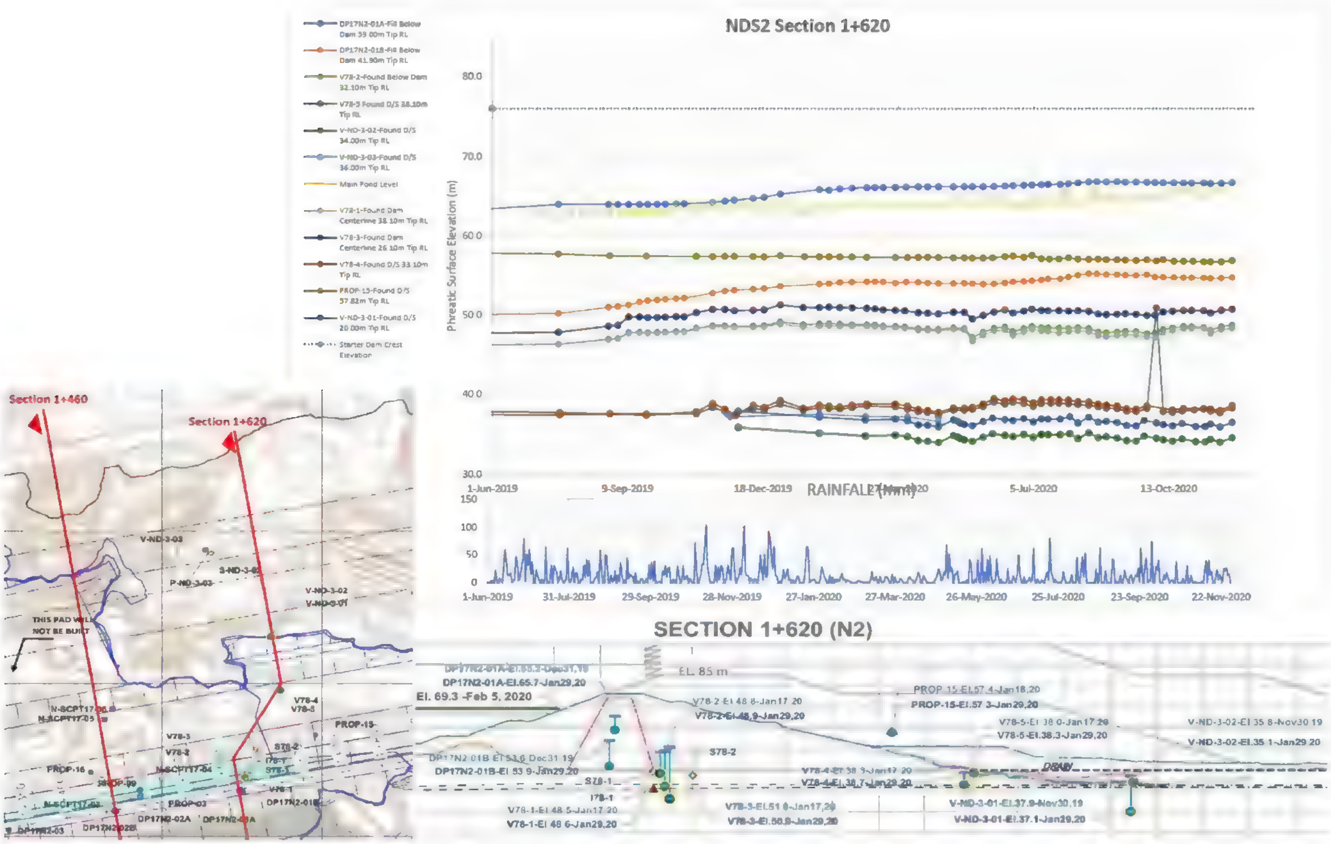
Graficas

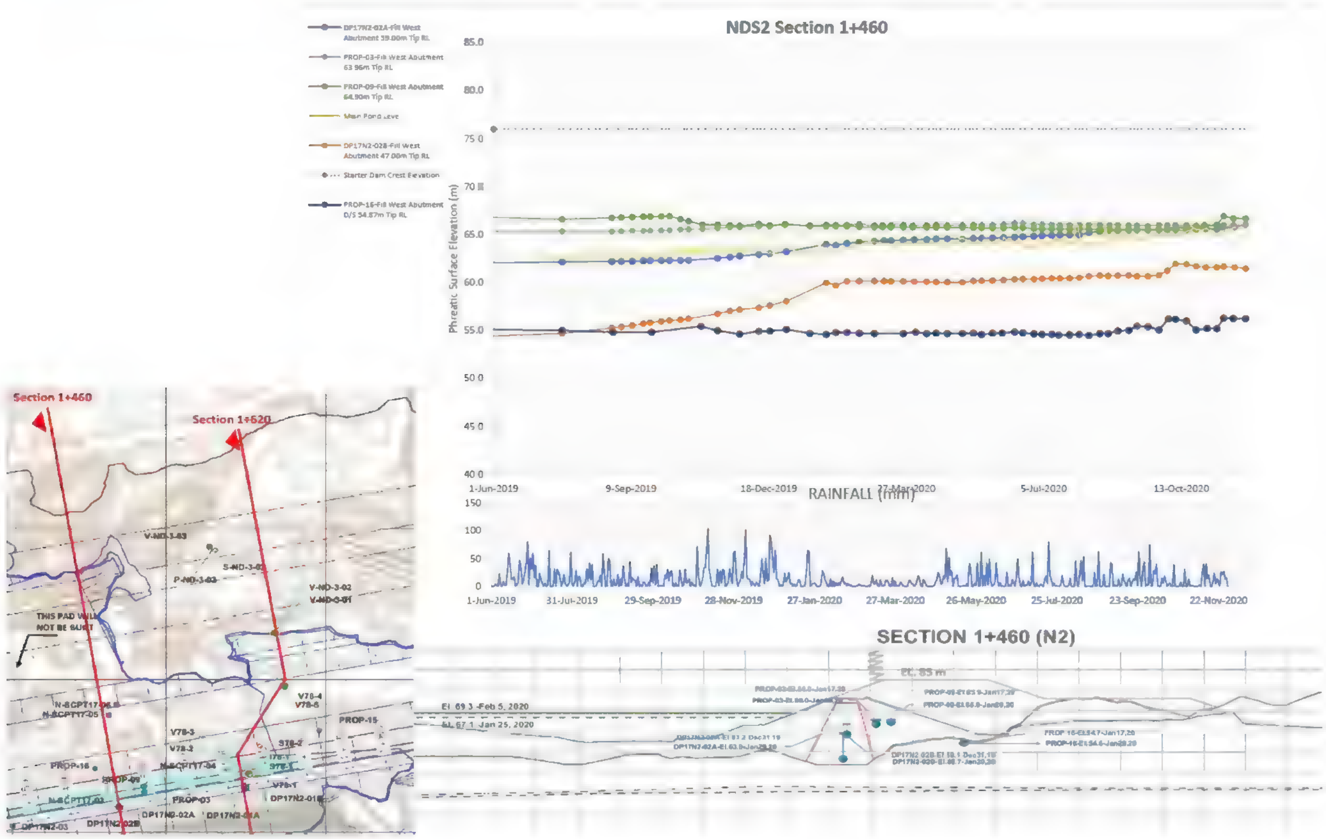


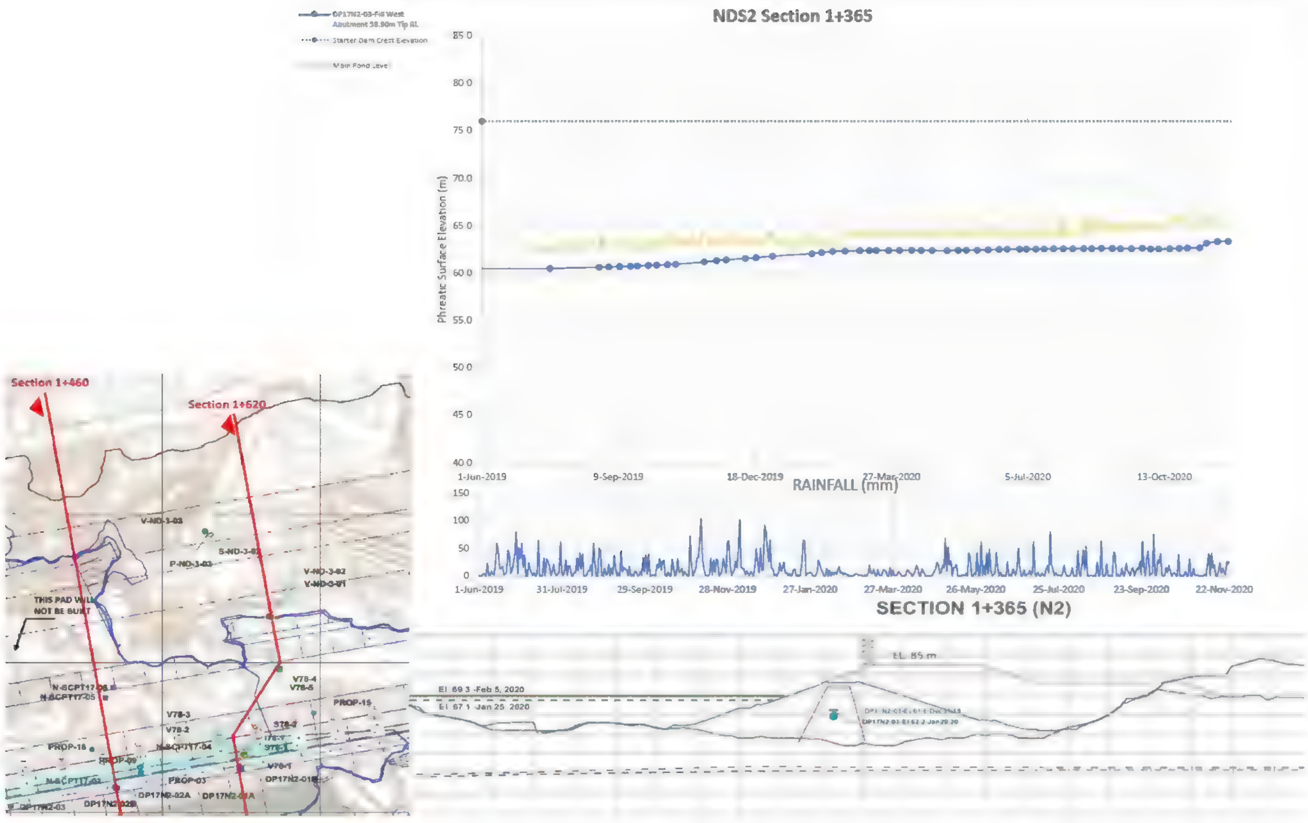


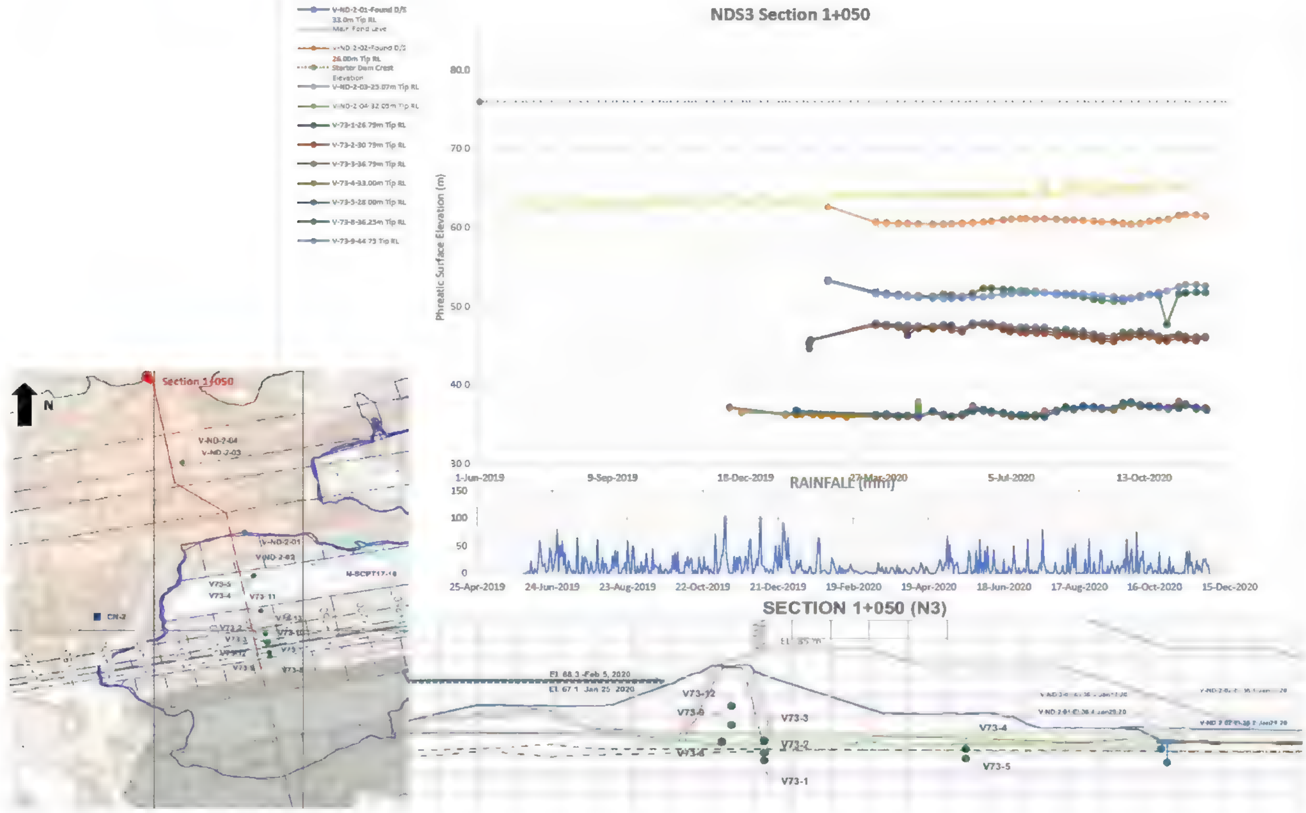

NDS1 Section 2+250
PROP-V-1-Fill Below Dam 53.27m Tip RL
V84-8-Fill D/S 42.8m Tip RL
Main Pond Level
V84-1-Found Below Dam 38.00m Tip RL
V84-2-Found Below Dam 33.00m Tip RL
V84-3-Found Below Dam 28.00 Tip RL
Starter Dam Crest Elevation
V84-6-35.02m Tip RL
V84-7-43.03m Tip RL
V84-10-53.03m Tip RL
Sdu Coffer Dam Pond Level
Phreatic Surface Elevation (m)
80.0
70.0
60.0
50.0
40.0
30.0
1-Jun-2019
21-Jul-2019
9-Sep-2019
29-Oct-2019
18-Dec-2019
6-Feb-2020
27-Mar-2020
16-May-2020
5-Jul-2020
24-Aug-2020
13-Oct-2020
2-Dec-2020
RAINFALL (mm)
150
100
50
0
1-Jun-2019
31-Jul-2019
29-Sep-2019
28-Nov-2019
27-Jan-2020
27-Mar-2020
26-May-2020
25-Jul-2020
23-Sep-2020
22-Nov-2020
Section 2+000
Section 2+250
Section 2+300
CHANNEL A
P-ND-5-01
S-ND-4-01
V-ND-4-01
V-ND-4-02
P-ND-4-02
S-ND-4-01
PROP-V-4
V84-9
V82-4
V82-5
V82-6
PROP-C-6
V82-3
V82-2
V82-1
V84-3
V84-2
V84-1
V84-11
PROP-C-7
V82-10
V82-7
V82-8
V84-7
V84-8
V84-10
SECTION 2+250 (N1)
EL. 85 m
EL 68.5 -Feb 5, 2020
PROP V 1 El 52.5 Dec13 19
PROP-V-1-El 52.5-Dec16 19
V84 2 El 49.8 Jan17 20
V84-2-El 49.8 Jan29 20
V84-3 El 50.2 Jan29 20
V84 1 El 46 7 Jan17 20
V84-1-El 46 9-Jan29 20
V84-8-El 46 1 Jan17 20
V84-8 El 46 3 Jan29 20

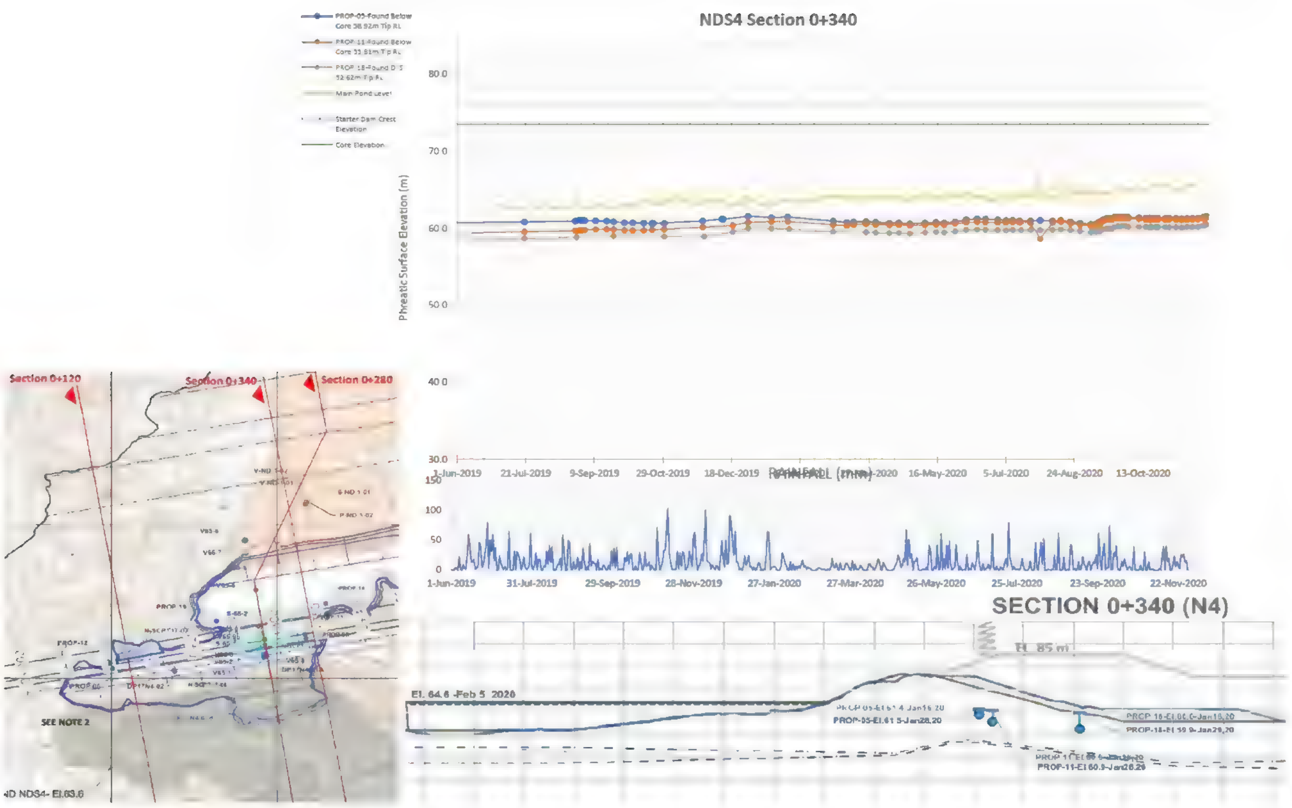

NDS1 Section 2+000
V-ND-4-01-Found D/S 36.00m Tip RL
V-82-3-Fill Below Dam 29.50m Tip RL
Main Pond Level
V-ND-4-02-Found D/S 41.00m Tip RL
V82-5-Found D/S 35.00m Tip RL
V82-1-Fill Below Dam 37.50m Tip RL
V82-2-Fill Below Dam 33.50m Tip RL
V82-4 Found D/S 30.00 Tip RL
Starter Dam Crest Elevation
V82-6-34.78m Tip RL
V82-7-43.06m Tip RL
V82-10-53.01m Tip RL
South Coffer Dam Pond Level
Phreatic Surface Elevation (m)
80.0
75.0
70.0
65.0
60.0
55.0
50.0
45.0
40.0
35.0
30.0
1-Jun-2019
9-Sep-2019
18-Dec-2019
27-Mar-2020
5-Jul-2020
13-Oct-2020
RAINFALL (mm)
150
100
50
0
1-Jun-2019
31-Jul-2019
29-Sep-2019
28-Nov-2019
27-Jan-2020
27-Mar-2020
26-May-2020
25-Jul-2020
23-Sep-2020
22-Nov-2020
Section 2+000
Section 2+250
Section 2+300
CHANNEL A
P-ND-5-01
S-ND-4-01
V-ND-4-01
V-ND-4-02
P-ND-4-02
S-ND-4-01
PROP-V-4
V84-9
V82-4
V82-5
V82-6
PROP-C-6
V82-3
V82-2
V82-1
V84-3
V84-2
V84-1
V84-11
PROP-C-7
V82-10
V82-7
V82-8
V84-7
V84-8
V84-10
SECTION 2+000 (N1)
EL. 85 m
V82-2 El 40 6-Jan29 20
V82-3-El 40 6 Jan29 20
V-ND-4-01-El 42 8 Jan29 20
V-ND-4-02-El 42 6 Jan29 20
V82 1 El 39 7 Dec5 19
V82-1-El 39 4-Jan30 20
V82-1
V82-4-El 41 6-Jan29 20
V82 5-El 41 5-Jan29 20


NDS2 Section 1+620
DP17N2-01A-Fill Below Dam 39.00m Tip RL
DP17N2-01B-Fill Below Dam 41.90m Tip RL
V78-2-Found Below Dam 32.10m Tip RL
V78-5 Found D/S 38.10m Tip RL
V-ND-3-02-Found D/S 34.00m Tip RL
V-ND-3-03-Found D/S 36.00m Tip RL
Main Pond Level
V78-1-Found Dam Centerline 38.10m Tip RL
V78-3-Found Dam Centerline 26.10m Tip RL
V78-4-Found D/S 33.10m Tip RL
PROP-15-Found D/S 57.82m Tip RL
V-ND-3-01-Found D/S 20.00m Tip RL
Starter Dam Crest Elevation
Phreatic Surface Elevation (m)
80.0
70.0
60.0
50.0
40.0
30.0
1-Jun-2019
9-Sep-2019
18-Dec-2019
27-Mar-2020
5-Jul-2020
13-Oct-2020
RAINFALL (mm)
150
100
50
0
1-Jun-2019
31-Jul-2019
29-Sep-2019
28-Nov-2019
27-Jan-2020
27-Mar-2020
26-May-2020
25-Jul-2020
23-Sep-2020
22-Nov-2020
Section 1+460
Section 1+620
V-ND-3-03
S-ND-3-03
P-ND-3-03
V-ND-3-02
V-ND-3-01
THIS PAD WILL NOT BE BUILT
N-SCPT17-06
N-SCPT17-05
V78-4
V78-5
PROP-15
V78-3
V78-2
S78-2
PROP-16
PROP-09
N-SCPT17-04
N-SCPT17-03
PROP-03
DP17N2-01B
DP17N2-03
DP17N2-02B
DP17N2-02A
DP17N2-01A
SECTION 1+620 (N2)
EL. 85 m
DP17N2-01A-El.65.2-Dec31,19
DP17N2-01A-El.65.7-Jan29,20
El. 69.3 -Feb 5, 2020
V78-2 El 48 8-Jan17 20
V78-2-El.48.9-Jan29,20
PROP 15 El.57 4-Jan18,20
PROP-15-El.57 3-Jan29,20
V78-5-El 38 0-Jan17 20
V78-5-El.38.3-Jan29,20
V-ND-3-02-El 35 8-Nov30 19
V-ND-3-02-El.35 1-Jan29 20
S78-2
DP17N2 01B El 53.6 Dec31 19
DP17N2-01B-El 53 9-Jan29,20
S78-1
V78-1
V78-4-El 38 3-Jan17 20
V78-4-El.38.7-Jan29,20
V78-1-El 48 5-Jan17 20
V78-1-El 48 6-Jan29,20
V78-3-El.51 8-Jan17,20
V78-3-El.50.9-Jan29,20
V-ND-3-01-El.37.9-Nov30,19
V-ND-3-01-El.37.1-Jan29,20
DRAIN

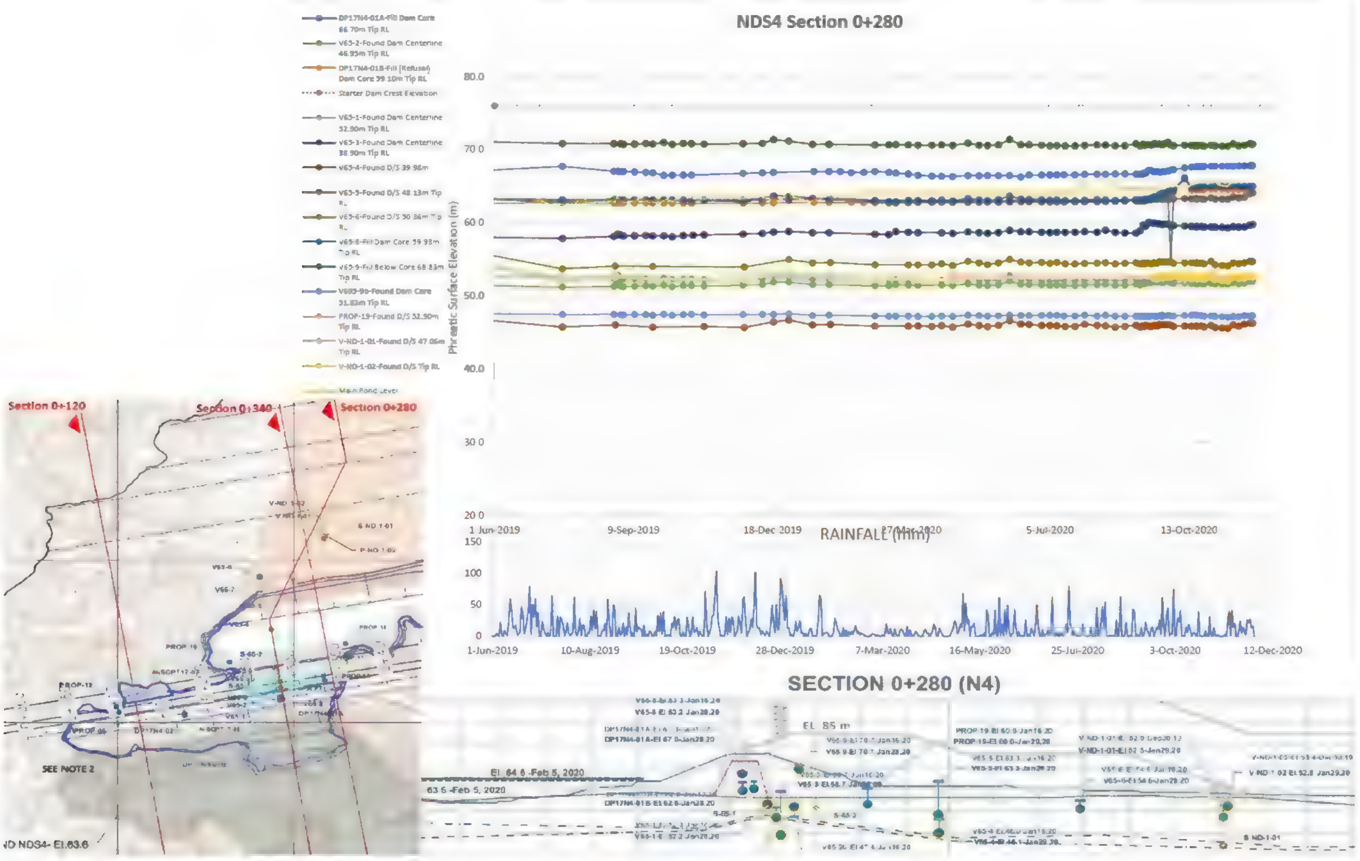

NDS2 Section 1+460
DP17N2-02A-Fill West Abutment 39.00m Tip RL
PROP-03-Fill West Abutment 63 96m Tip RL
PROP-09-Fill West Abutment 64.90m Tip RL
Main Pond Level
DP17N2-02B-Fill West Abutment 47.00m Tip RL
Starter Dam Crest Elevation
PROP-16-Fill West Abutment D/S 54.87m Tip RL
Phreatic Surface Elevation (m)
85.0
80.0
75.0
70.0
65.0
60.0
55.0
50.0
45.0
40.0
1-Jun-2019
9-Sep-2019
18-Dec-2019
27-Mar-2020
5-Jul-2020
13-Oct-2020
RAINFALL (mm)
150
100
50
0
1-Jun-2019
31-Jul-2019
29-Sep-2019
28-Nov-2019
27-Jan-2020
27-Mar-2020
26-May-2020
25-Jul-2020
23-Sep-2020
22-Nov-2020
Section 1+460
Section 1+620
V-ND-3-03
S-ND-3-03
P-ND-3-03
V-ND-3-02
V-ND-3-01
THIS PAD WILL NOT BE BUILT
N-SCPT17-06
N-SCPT17-05
V78-4
V78-5
PROP-15
V78-3
V78-2
S78-2
PROP-16
PROP-09
N-SCPT17-04
N-SCPT17-03
PROP-03
DP17N2-01B
DP17N2-03
DP17N2-02B
DP17N2-02A
DP17N2-01A
SECTION 1+460 (N2)
EL. 85 m
El 69.3 -Feb 5, 2020
El. 67.1 Jan 25, 2020
PROP-03-El.64.0-Jan17,20
PROP-03-El.66.0-Jan29,20
PROP-09-El.65.9-Jan17,20
PROP-09-El.65.8-Jan29,20
DP17N2-02A-El.61.2 Dec31 19
DP17N2-02A-El.62.0-Jan29,20
DP17N2-02B-El.58.1 Dec31,19
DP17N2-02B-El.58.7-Jan29,20
PROP-16-El.54.7-Jan17,20
PROP-16-El.54.6-Jan29,20


NDS2 Section 1+365
DP17N2-03-Fill West Abutment 38.90m Tip RL
Starter Dam Crest Elevation
Main Pond Level
Phreatic Surface Elevation (m)
85.0
80.0
75.0
70.0
65.0
60.0
55.0
50.0
45.0
40.0
1-Jun-2019
9-Sep-2019
18-Dec-2019
27-Mar-2020
5-Jul-2020
13-Oct-2020
RAINFALL (mm)
150
100
50
0
1-Jun-2019
31-Jul-2019
29-Sep-2019
28-Nov-2019
27-Jan-2020
27-Mar-2020
26-May-2020
25-Jul-2020
23-Sep-2020
22-Nov-2020
SECTION 1+365 (N2)
EL 85 m
El 69.3 -Feb 5, 2020
El 67.1 -Jan 25, 2020
DP17N2-03-El 62.2 Jan 29 20
Section 1+460
Section 1+620
V-ND-3-03
S-ND-3-02
P-ND-3-03
V-ND-3-02
V-ND-3-01
THIS PAD WILL NOT BE BUILT
V78-4
V78-5
N-SCPT17-05
PROP-15
V78-3
V78-2
PROP-16
N-SCPT17-04
V78-1
N-SCPT17-03
PROP-03
OP17N2-01B
DP17N2-02A
DP17N2-01A
DP17N2-03
DP17N2-02B

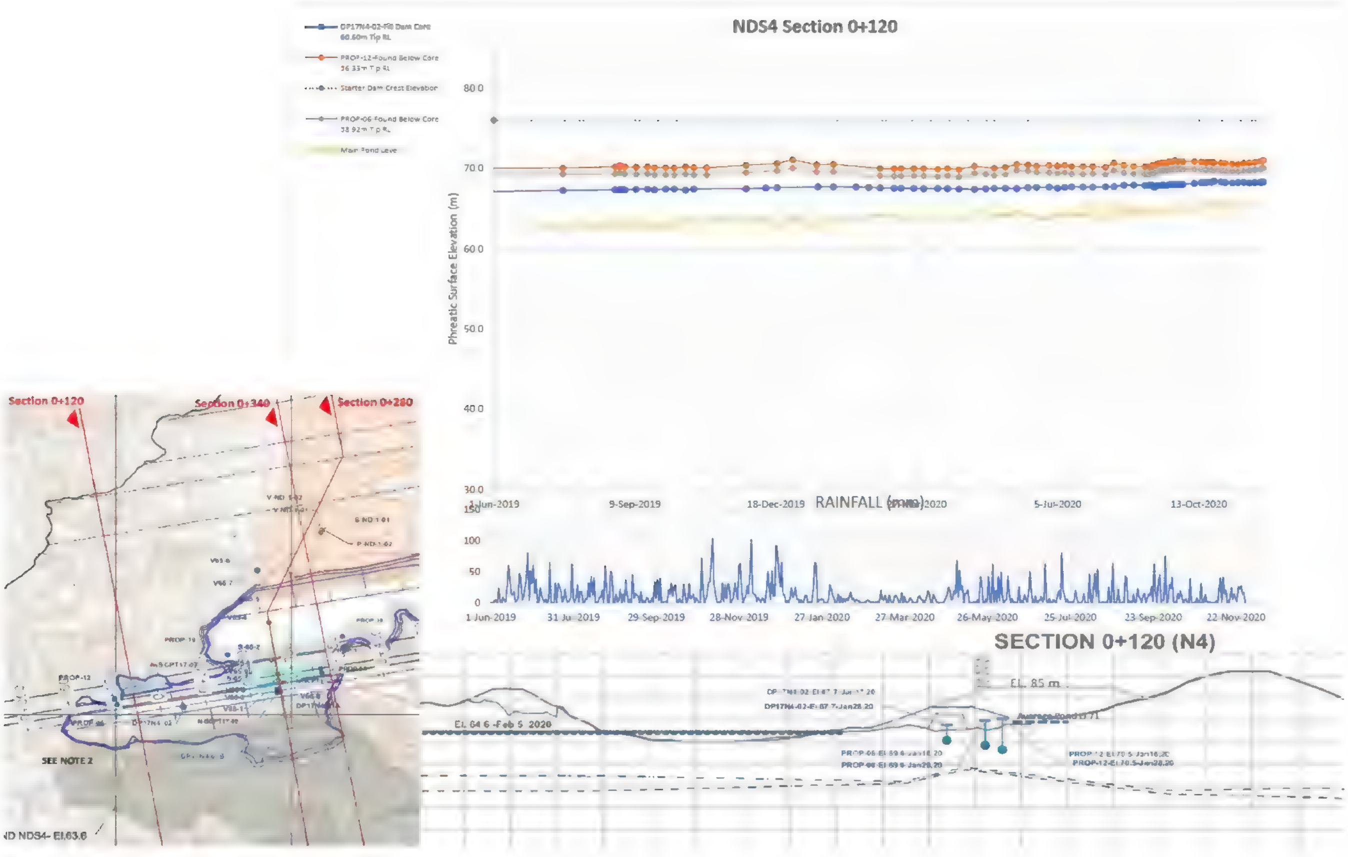

NDS3 Section 1+050
V-ND-2-01-Found D/S 33.0m Tip RL
Main Pond Level
V-ND-2-02-Found D/S 26.00m Tip RL
Starter Dam Crest Elevation
V-ND-2-03-23.07m Tip RL
V-ND-2-04-32.05m Tip RL
V-73-1-26.79m Tip RL
V-73-2-30.79m Tip RL
V-73-3-36.79m Tip RL
V-73-4-33.00m Tip RL
V-73-5-28.00m Tip RL
V-73-8-36.25m Tip RL
V-73-9-44.73 Tip RL
Phreatic Surface Elevation (m)
80.0
70.0
60.0
50.0
40.0
30.0
1-Jun-2019
9-Sep-2019
18-Dec-2019
27-Mar-2020
5-Jul-2020
13-Oct-2020
RAINFALL (mm)
150
100
50
0
25-Apr-2019
24-Jun-2019
23-Aug-2019
22-Oct-2019
21-Dec-2019
19-Feb-2020
19-Apr-2020
18-Jun-2020
17-Aug-2020
16-Oct-2020
15-Dec-2020
SECTION 1+050 (N3)
EL 85 m
El 68.3 -Feb 5, 2020
El 67.1 -Jan 25, 2020
V73-12
V73-8
V73-3
V73-2
V73-4
V73-1
V73-5
V-ND-2-01-El 38.4 Jan28 20
V-ND-2-02-El 38.2 Jan29 20
Section 1+050
N
V-ND-2-04
V-ND-2-03
V-ND-2-01
V-ND-2-02
N-SCPT17-16
CN-2
V73-5
V73-4
V73-11

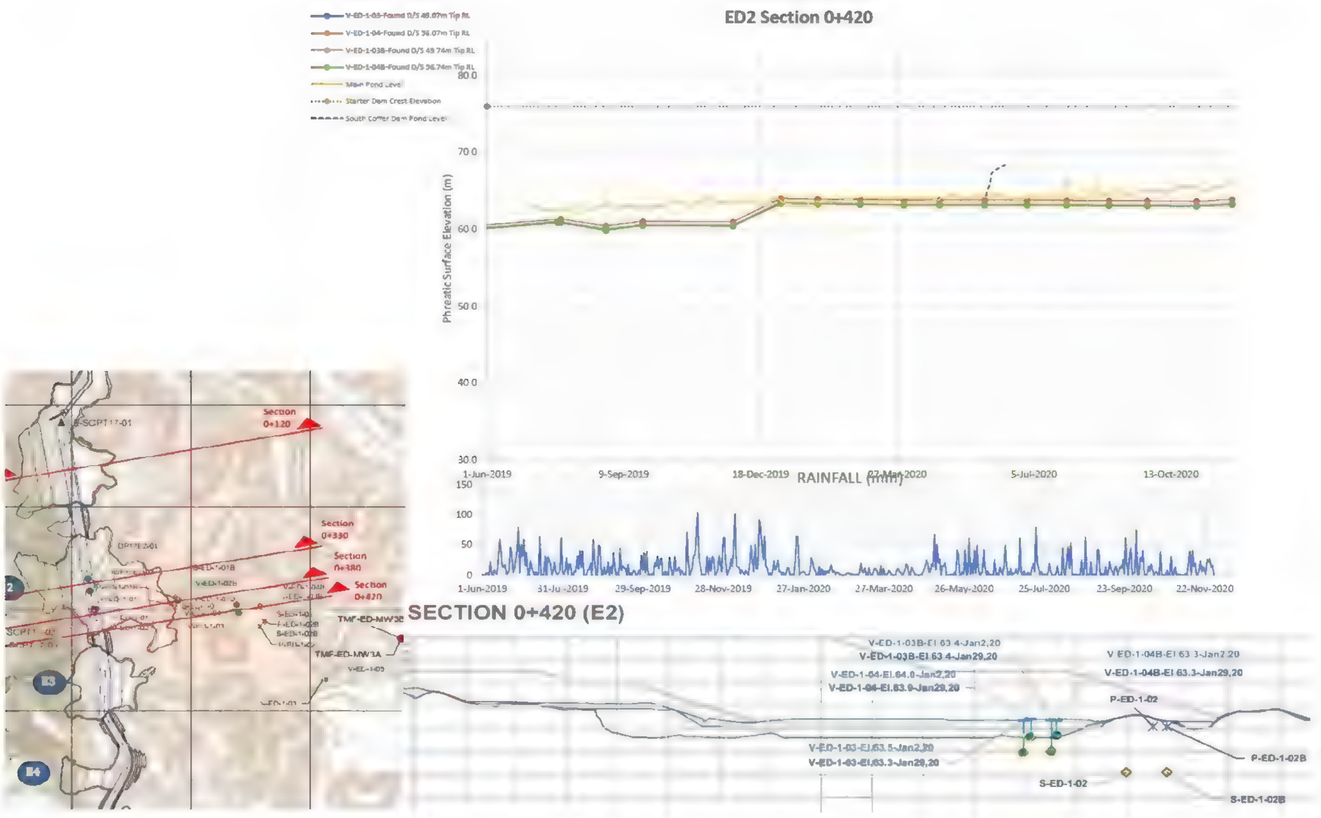


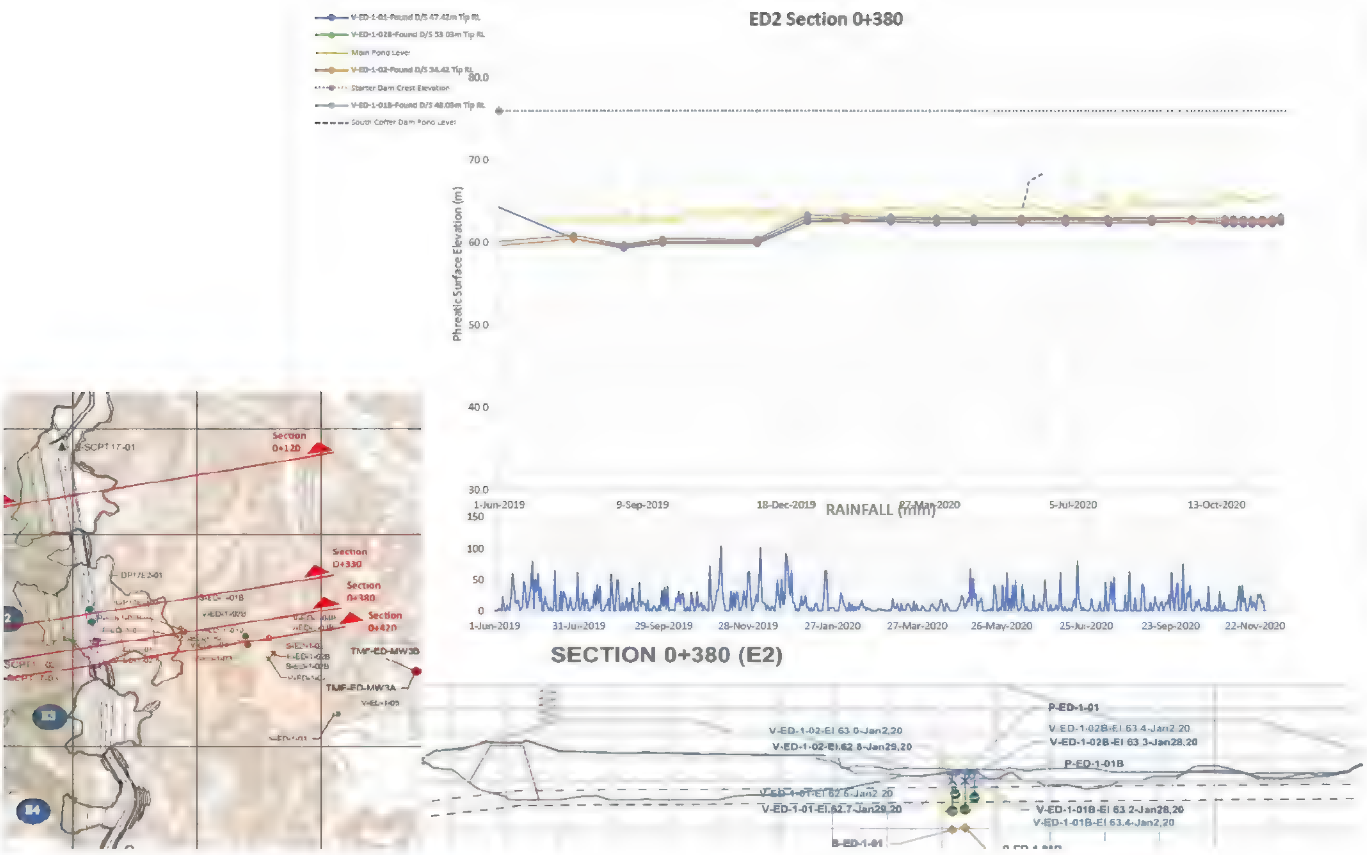
NDS4 Section 0+340
PROP-05-Found Below Core 38.92m Tip RL
PROP-11-Found Below Core 33.81m Tip RL
PROP-18-Found D/S 52.62m Tip RL
Main Pond Level
Starter Dam Crest Elevation
Core Elevation
Phreatic Surface Elevation (m)
80.0
70.0
60.0
50.0
40.0
30.0
1-Jun-2019
21-Jul-2019
9-Sep-2019
29-Oct-2019
18-Dec-2019
6-Feb-2020
27-Mar-2020
16-May-2020
5-Jul-2020
24-Aug-2020
13-Oct-2020
RAINFALL (mm)
150
100
50
0
1-Jun-2019
31-Jul-2019
29-Sep-2019
28-Nov-2019
27-Jan-2020
27-Mar-2020
26-May-2020
25-Jul-2020
23-Sep-2020
22-Nov-2020
Section 0+120
Section 0+340
Section 0+280
V-ND-1-02
V-ND-1-01
B-ND-1-01
P-ND-1-02
V65-8
V65-7
PROP-14
PROP-19
B-65-2
PROP-12
PROP-05
DP17N4-02
SEE NOTE 2
ND NDS4- El.63.6
SECTION 0+340 (N4)
EL 85 m
EL 64.6 -Feb 5 2020
PROP-05-EL61.4 Jan16.20
PROP-05-EL61.5-Jan28.20
PROP-18-EL60.0-Jan16.20
PROP-18-EL59.9-Jan29.20
PROP-11-EL60.6-Jan16.20
PROP-11-EL60.5-Jan28.20

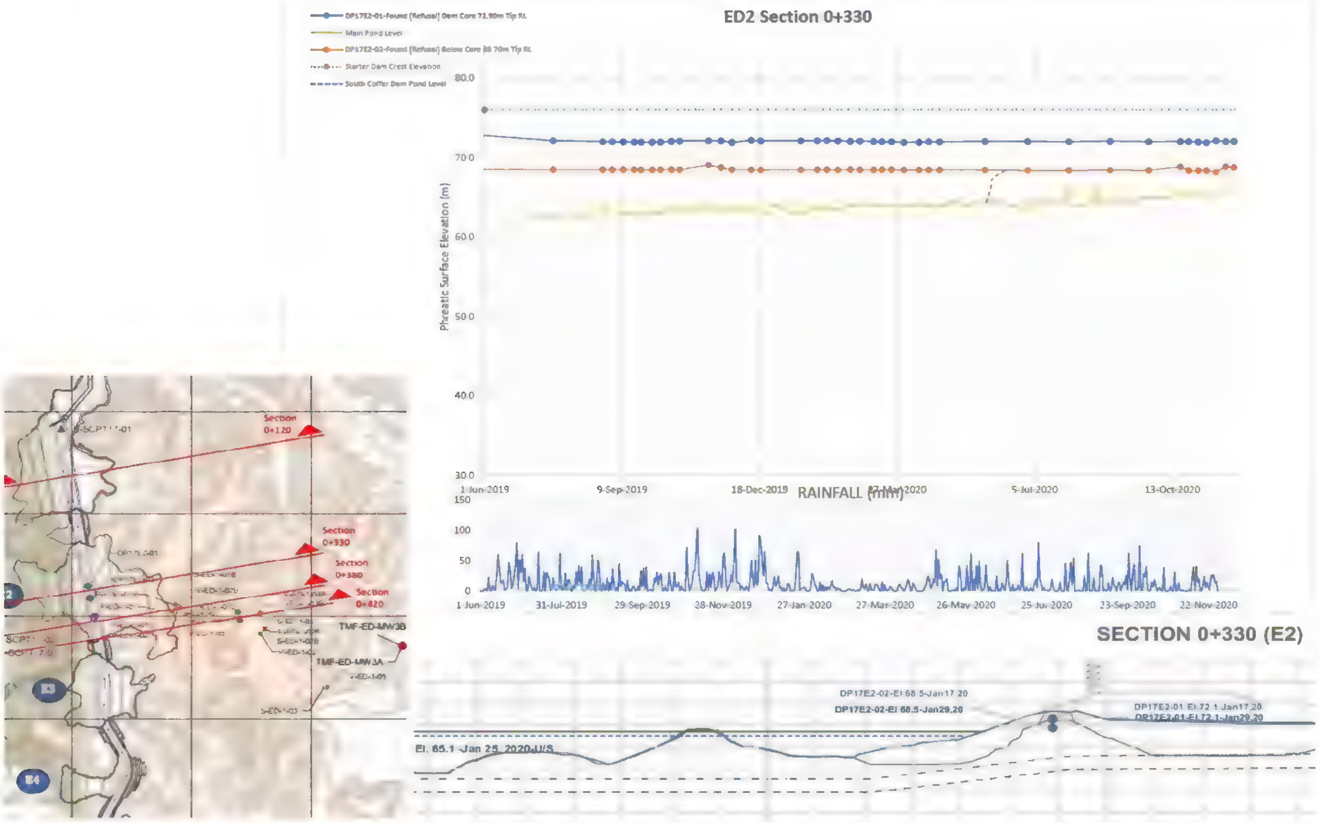


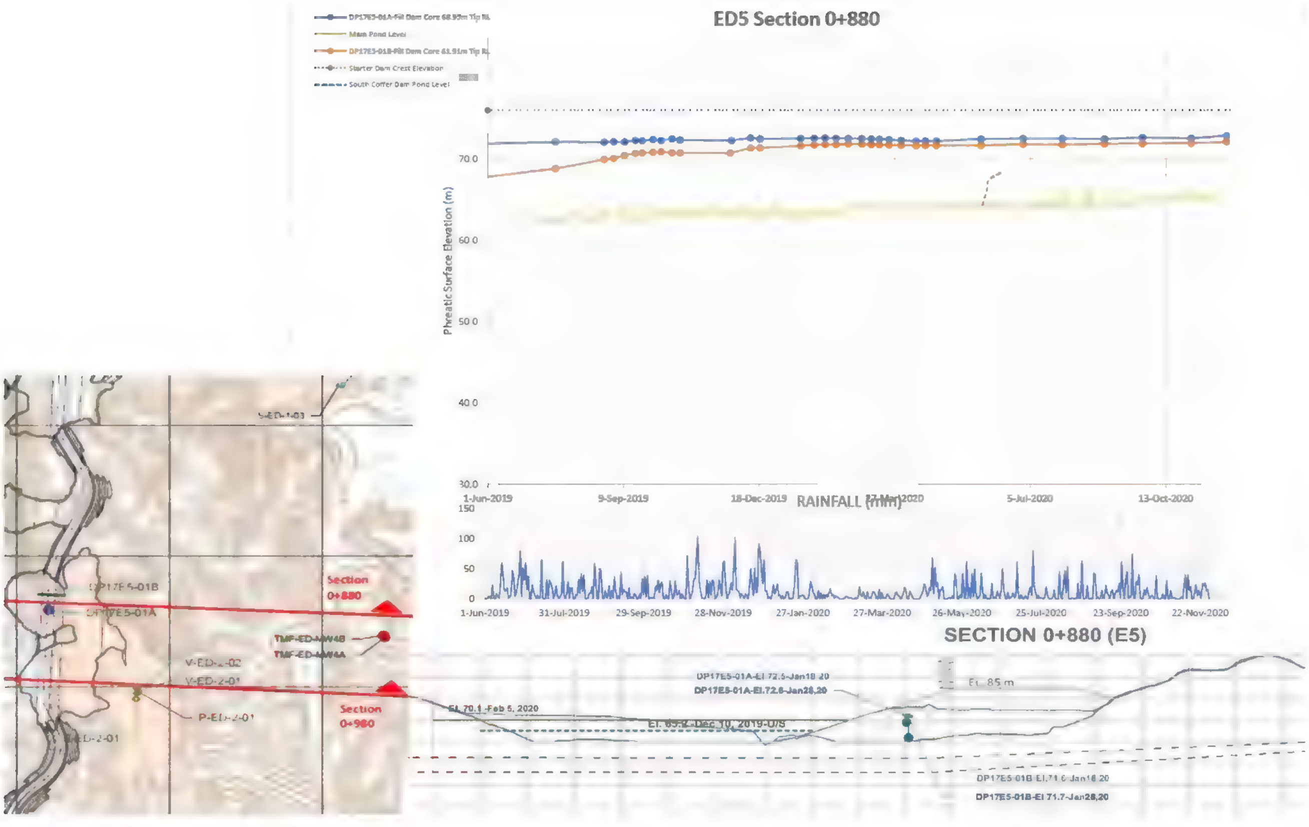
NDS4 Section 0+280
DP17N4-01A-Fill Dam Core 66.70m Tip RL
V65-2-Found Dam Centerline 46.95m Tip RL
DP17N4-01B-Fill (Refused) Dam Core 59.10m Tip RL
Starter Dam Crest Elevation
V65-1-Found Dam Centerline 32.90m Tip RL
V65-3-Found Dam Centerline 38.90m Tip RL
V65-4-Found D/S 39.98m
V65-5-Found D/S 48.13m Tip RL
V65-6-Found D/S 50.36m Tip RL
V65-8-Fill Dam Core 59.98m Tip RL
V65-9-Fill Below Core 68.83m Tip RL
V65-9b-Found Dam Core 31.83m Tip RL
PROP-19-Found D/S 52.90m Tip RL
V-ND-1-01-Found D/S 47.06m Tip RL
V-ND-1-02-Found D/S Tip RL
Main Pond Level
Phreatic Surface Elevation (m)
80.0
70.0
60.0
50.0
40.0
30.0
20.0
1-Jun-2019
9-Sep-2019
18-Dec-2019
27-Mar-2020
5-Jul-2020
13-Oct-2020
RAINFALL (mm)
150
100
50
0
1-Jun-2019
10-Aug-2019
19-Oct-2019
28-Dec-2019
7-Mar-2020
16-May-2020
25-Jul-2020
3-Oct-2020
12-Dec-2020
Section 0+120
Section 0+340
Section 0+280
SEE NOTE 2
ND NDS4- El.63.6
SECTION 0+280 (N4)
EL 85 m
El 64.6 -Feb 5, 2020
63.6 -Feb 5, 2020
V65-8-EL63.2-Jan28.20
DP17N4-01A-EL67.0-Jan28.20
DP17N4-01B-EL62.8-Jan28.20
PROP-19-EL60.0-Jan29.20
V-ND-1-01-EL52.0-Jan29.20
V-ND-1-02-EL52.8-Jan29.20
V65-5-EL63.3-Jan29.20
V65-6-EL54.6-Jan29.20
V65-4-EL46.4-Jan29.20
B-ND-1-01
B-65-2

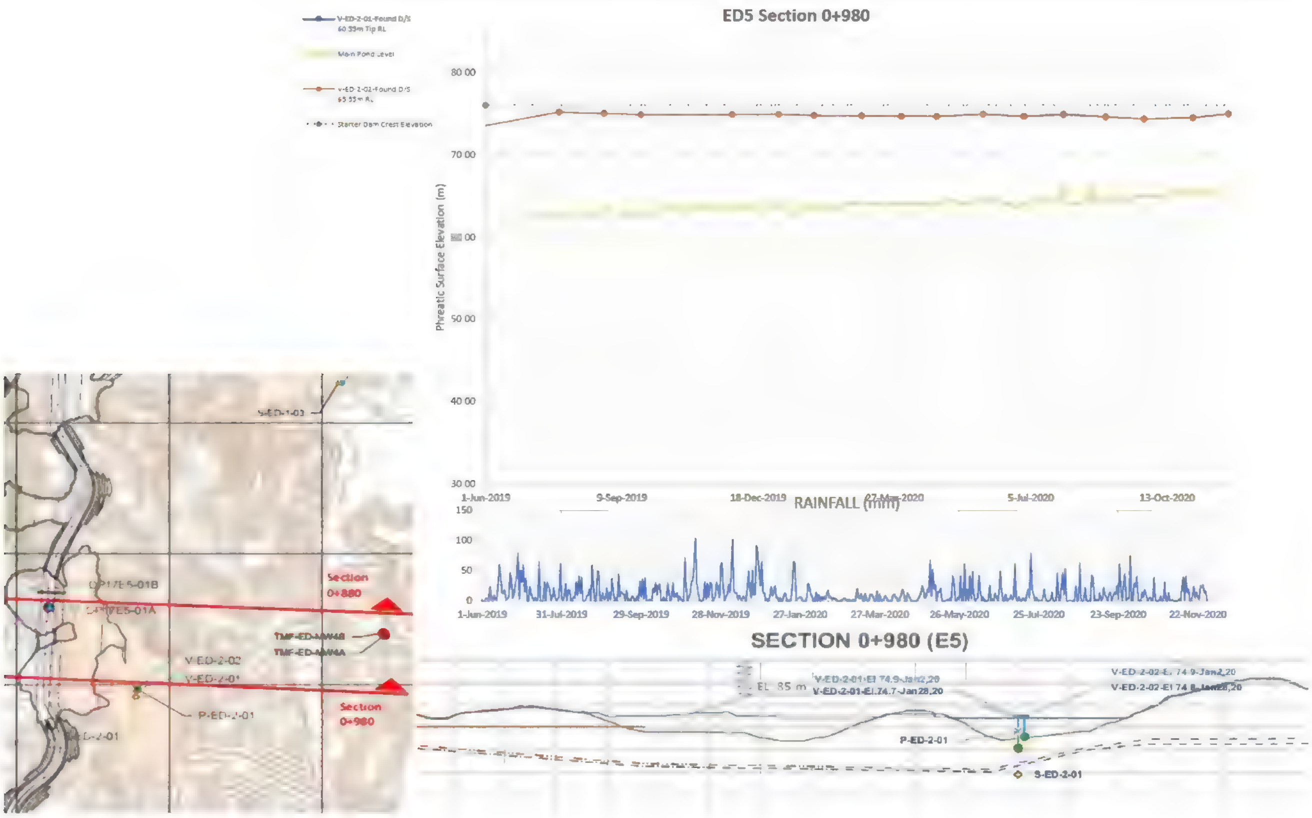

NDS4 Section 0+120
DP17N4-02-Fill Dam Core 60.60m Tip RL
PROP-12-Found Below Core 36.33m Tip RL
Starter Dam Crest Elevation
PROP-06-Found Below Core 38.92m Tip RL
Main Pond Level
Phreatic Surface Elevation (m)
80.0
70.0
60.0
50.0
40.0
30.0
1-Jun-2019
9-Sep-2019
18-Dec-2019
5-Jul-2020
13-Oct-2020
RAINFALL (mm)
150
100
50
0
1-Jun-2019
31-Jul-2019
29-Sep-2019
28-Nov-2019
27-Jan-2020
27-Mar-2020
26-May-2020
25-Jul-2020
23-Sep-2020
22-Nov-2020
SECTION 0+120 (N4)
EL. 85 m
EL 64.6 -Feb 5 2020
DP17N4-02-EL67 7-Jan28.20
PROP-06-EL59.6-Jan28.20
PROP-12-EL70.5-Jan28.20
Section 0+120
Section 0+340
Section 0+280
SEE NOTE 2
ND NDS4- El.63.6

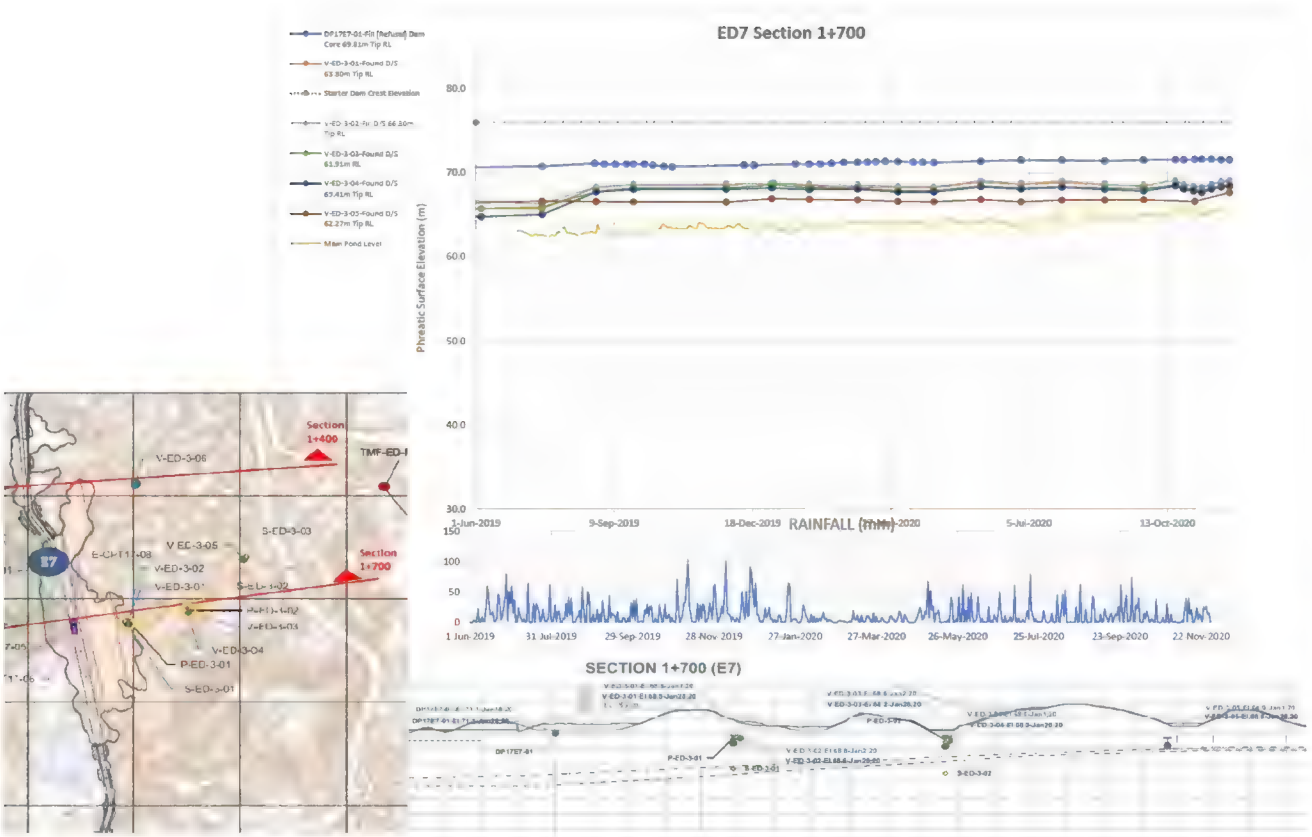

ED2 Section 0+420
V-ED-1-03-Found D/S 49.07m Tip RL
V-ED-1-04-Found D/S 56.07m Tip RL
V-ED-1-03B-Found D/S 49.74m Tip RL
V-ED-1-04B-Found D/S 56.74m Tip RL
Main Pond Level
Starter Dam Crest Elevation
South Coffer Dam Pond Level
Phreatic Surface Elevation (m)
80.0
70.0
60.0
50.0
40.0
30.0
1-Jun-2019
9-Sep-2019
18-Dec-2019
27-Mar-2020
5-Jul-2020
13-Oct-2020
RAINFALL (mm)
150
100
50
0
1-Jun-2019
31-Jul-2019
29-Sep-2019
28-Nov-2019
27-Jan-2020
27-Mar-2020
26-May-2020
25-Jul-2020
23-Sep-2020
22-Nov-2020
SECTION 0+420 (E2)
V-ED-1-03B-EL63.4-Jan2,20
V-ED-1-03B-EL63.4-Jan29,20
V-ED-1-04-EL64.0-Jan2,20
V-ED-1-04-EL63.9-Jan29,20
V-ED-1-04B-EL63.3-Jan2,20
V-ED-1-04B-EL63.3-Jan29,20
V-ED-1-03-EL63.5-Jan2,20
V-ED-1-03-EL63.3-Jan29,20
P-ED-1-02
P-ED-1-02B
S-ED-1-02
S-ED-1-02B
Section 0+120
Section 0+330
Section 0+380
Section 0+420
TMF-ED-MW3B
TMF-ED-MW3A
E3
E4

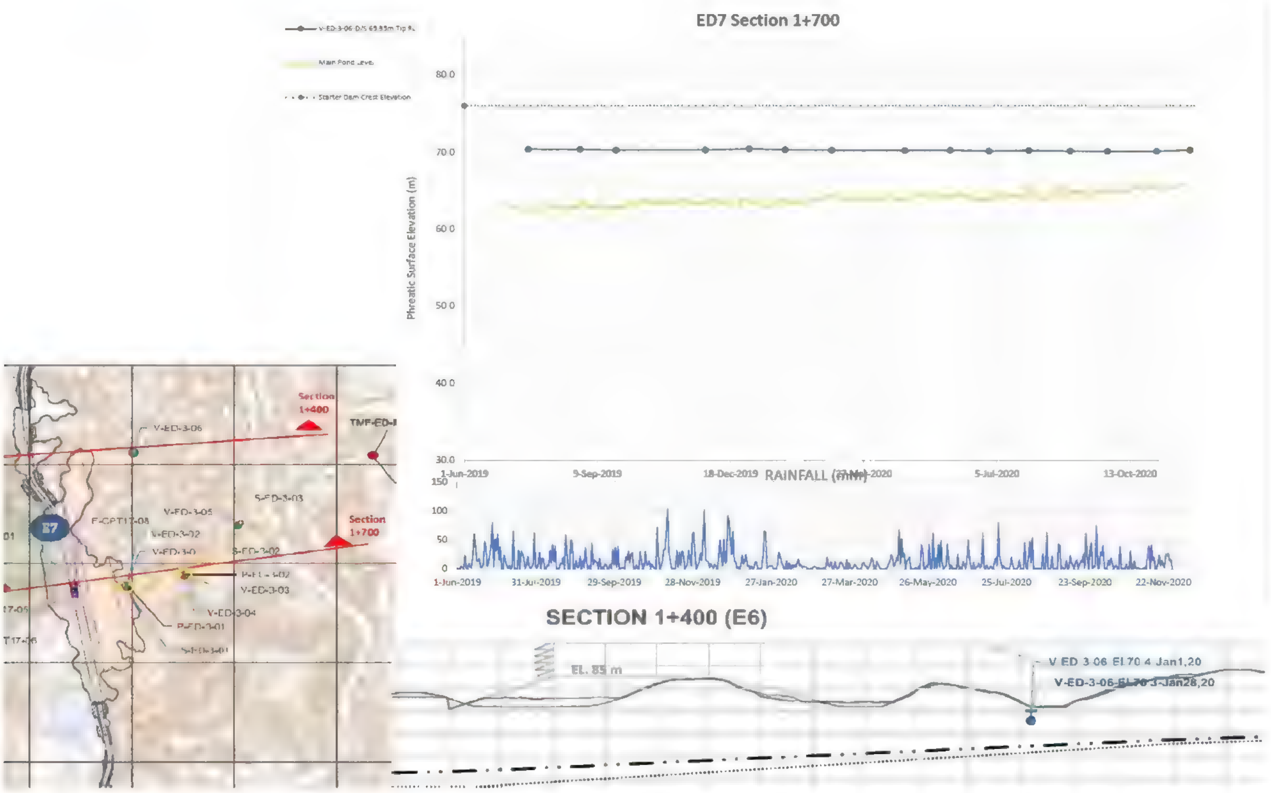

ED2 Section 0+380
V-ED-1-01-Found D/S 47.42m Tip RL
V-ED-1-02B-Found D/S 53.03m Tip RL
Main Pond Level
V-ED-1-02-Found D/S 34.42 Tip RL
Starter Dam Crest Elevation
V-ED-1-01B-Found D/S 48.03m Tip RL
South Coffer Dam Pond Level
Phreatic Surface Elevation (m)
80.0
70.0
60.0
50.0
40.0
30.0
1-Jun-2019
9-Sep-2019
18-Dec-2019
27-Mar-2020
5-Jul-2020
13-Oct-2020
RAINFALL (mm)
150
100
50
0
1-Jun-2019
31-Jul-2019
29-Sep-2019
28-Nov-2019
27-Jan-2020
27-Mar-2020
26-May-2020
25-Jul-2020
23-Sep-2020
22-Nov-2020
Section 0+120
Section 0+330
Section 0+380
Section 0+420
TMF-ED-MW3B
TMF-ED-MW3A
E3
E4
SECTION 0+380 (E2)
P-ED-1-01
V-ED-1-02-El 63.0-Jan2,20
V-ED-1-02-El.62.8-Jan29,20
V-ED-1-02B-El 63.4-Jan2,20
V-ED-1-02B-El 63.3-Jan28,20
P-ED-1-01B
V-ED-1-01-El 62.6-Jan2,20
V-ED-1-01-El.62.7-Jan29,20
V-ED-1-01B-El 63.2-Jan28,20
V-ED-1-01B-El 63.4-Jan2,20
B-ED-1-01

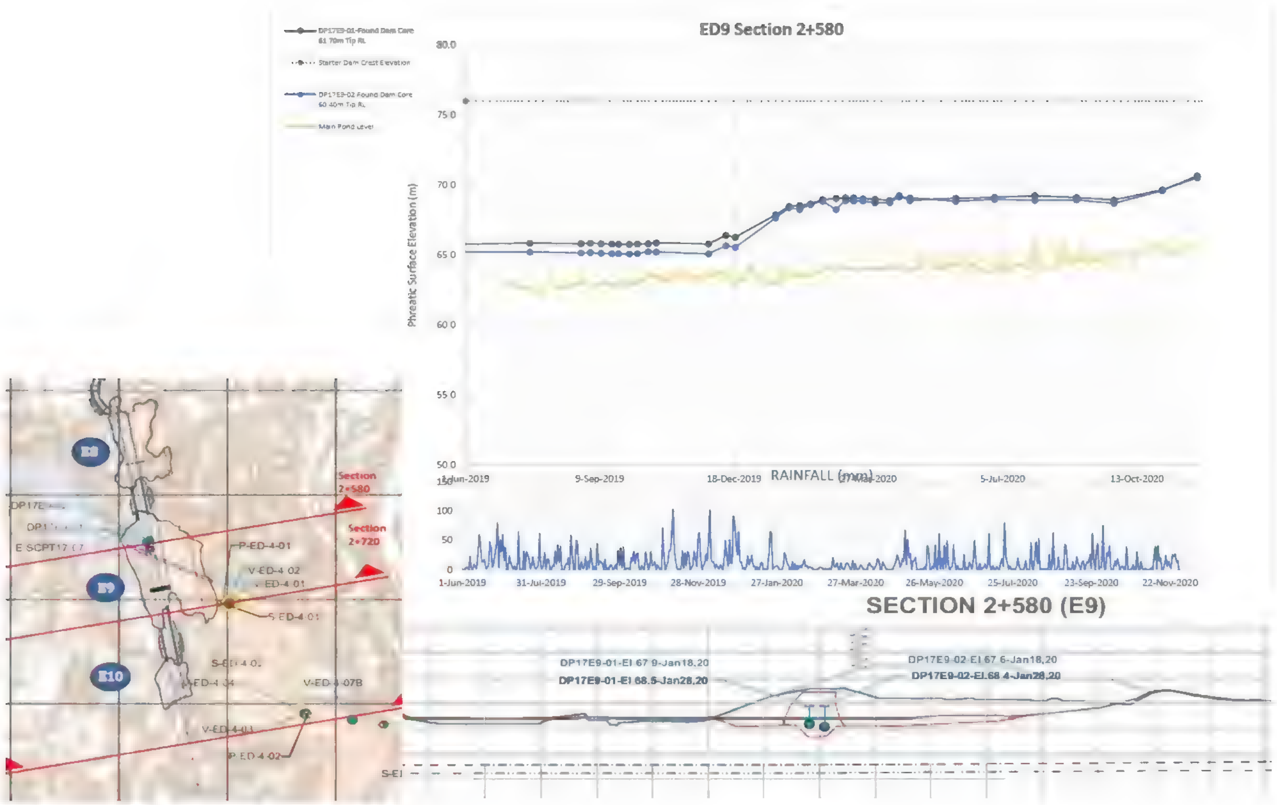

ED2 Section 0+330
DP17E2-01-Found (Refusal) Dam Core 71.90m Tip RL
Main Pond Level
DP17E2-02-Found (Refusal) Below Core 68.70m Tip RL
Starter Dam Crest Elevation
South Coffer Dam Pond Level
Phreatic Surface Elevation (m)
80.0
70.0
60.0
50.0
40.0
30.0
1-Jun-2019
9-Sep-2019
18-Dec-2019
27-Mar-2020
5-Jul-2020
13-Oct-2020
RAINFALL (mm)
150
100
50
0
1-Jun-2019
31-Jul-2019
29-Sep-2019
28-Nov-2019
27-Jan-2020
27-Mar-2020
26-May-2020
25-Jul-2020
23-Sep-2020
22-Nov-2020
Section 0+120
Section 0+330
Section 0+380
Section 0+420
TMF-ED-MW3B
TMF-ED-MW3A
E3
E4
SECTION 0+330 (E2)
DP17E2-02-El 68.5-Jan17,20
DP17E2-02-El 68.5-Jan29,20
DP17E2-01-El 72.1-Jan17,20
DP17E2-01-El 72.1-Jan29,20
El. 65.1 -Jan 25, 2020 U/S

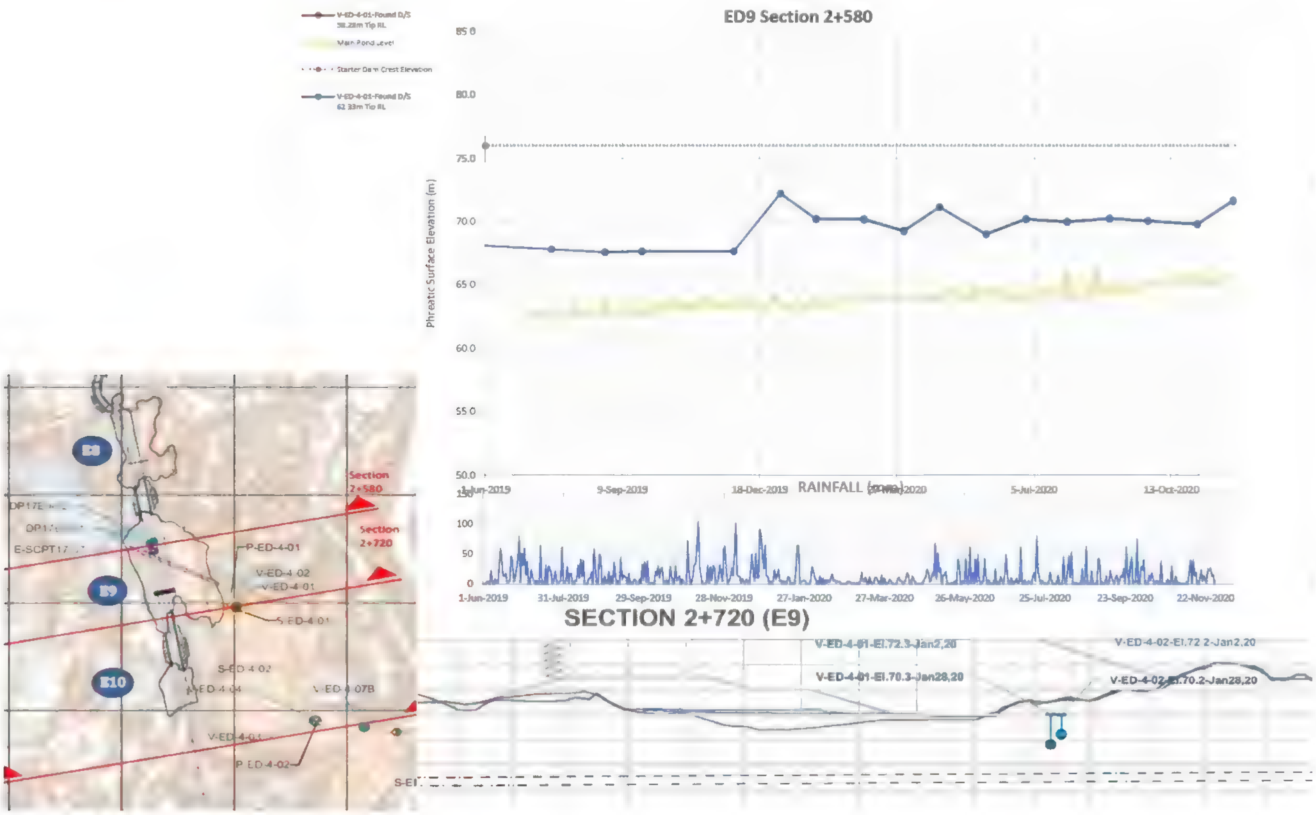

ED5 Section 0+880
DP17E5-01A-Fill Dam Core 68.95m Tip RL
Main Pond Level
DP17E5-01B-Fill Dam Core 61.91m Tip RL
Starter Dam Crest Elevation
South Coffer Dam Pond Level
Phreatic Surface Elevation (m)
70.0
60.0
50.0
40.0
30.0
1-Jun-2019
9-Sep-2019
18-Dec-2019
27-Mar-2020
5-Jul-2020
13-Oct-2020
RAINFALL (mm)
150
100
50
0
1-Jun-2019
31-Jul-2019
29-Sep-2019
28-Nov-2019
27-Jan-2020
27-Mar-2020
26-May-2020
25-Jul-2020
23-Sep-2020
22-Nov-2020
V-ED-1-01
DP17E5-01B
DP17E5-01A
Section 0+880
TMF-ED-MW4B
TMF-ED-MW4A
V-ED-2-02
V-ED-2-01
P-ED-2-01
Section 0+980
SECTION 0+880 (E5)
DP17E5-01A-El 72.5-Jan18 20
DP17E5-01A-El.72.6-Jan28,20
El. 85 m
El. 70.1 -Feb 5, 2020
El. 69.2 -Dec 10, 2019-U/S
DP17E5-01B El.71.6 Jan18 20
DP17E5-01B-El 71.7-Jan28,20

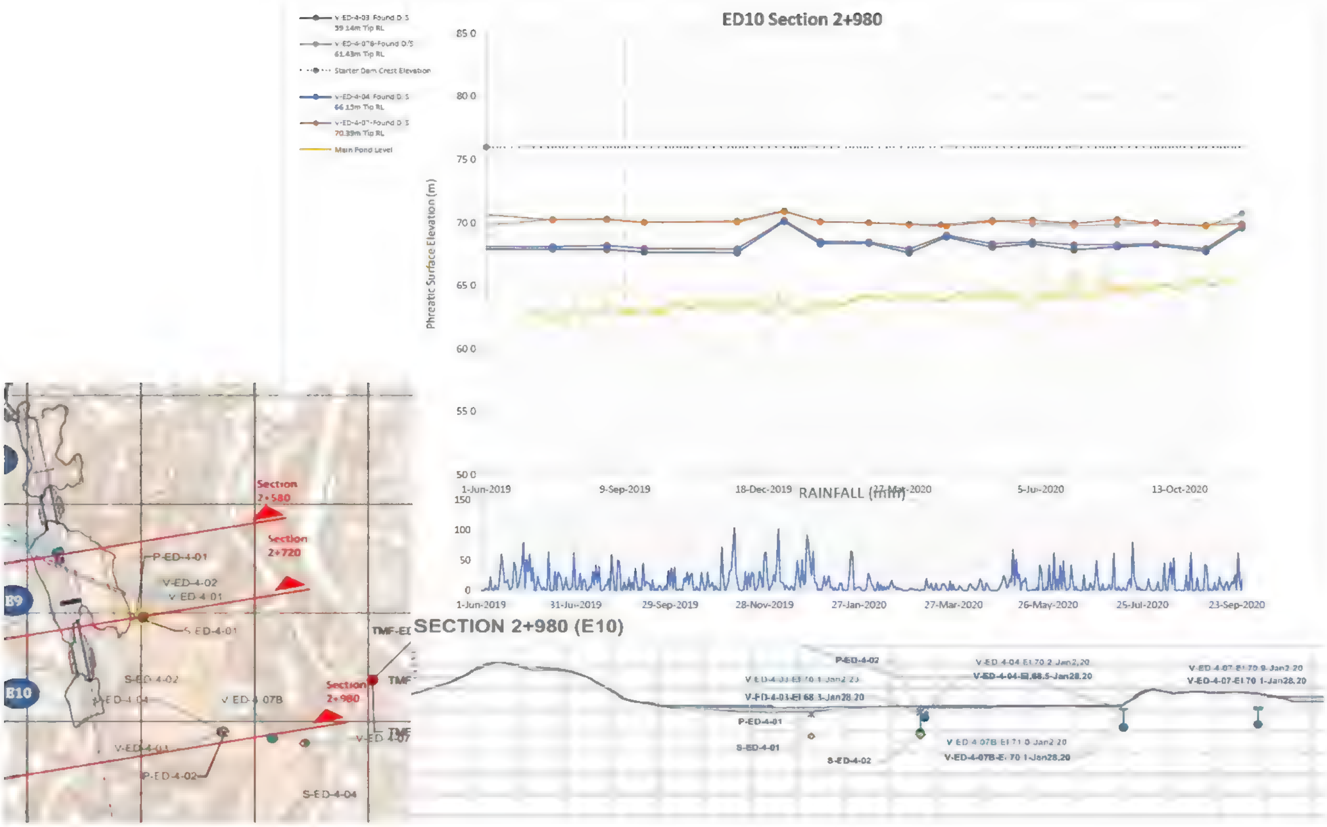

ED5 Section 0+980
V-ED-2-01-Found D/S 60.55m Tip RL
Main Pond Level
V-ED-2-02-Found D/S 65.55m RL
Starter Dam Crest Elevation
Phreatic Surface Elevation (m)
80.00
70.00
60.00
50.00
40.00
30.00
1-Jun-2019
9-Sep-2019
18-Dec-2019
27-Mar-2020
5-Jul-2020
13-Oct-2020
RAINFALL (mm)
150
100
50
0
1-Jun-2019
31-Jul-2019
29-Sep-2019
28-Nov-2019
27-Jan-2020
27-Mar-2020
26-May-2020
25-Jul-2020
23-Sep-2020
22-Nov-2020
V-ED-1-01
DP17E5-01B
DP17E5-01A
Section 0+880
TMF-ED-MW4B
TMF-ED-MW4A
V-ED-2-02
V-ED-2-01
P-ED-2-01
Section 0+980
SECTION 0+980 (E5)
EL 85 m
V-ED-2-01-El 74.9-Jan2,20
V-ED-2-01-El.74.7-Jan 28,20
V-ED-2-02-El 74.9-Jan2,20
V-ED-2-02-El 74.8-Jan28,20
P-ED-2-01
S-ED-2-01

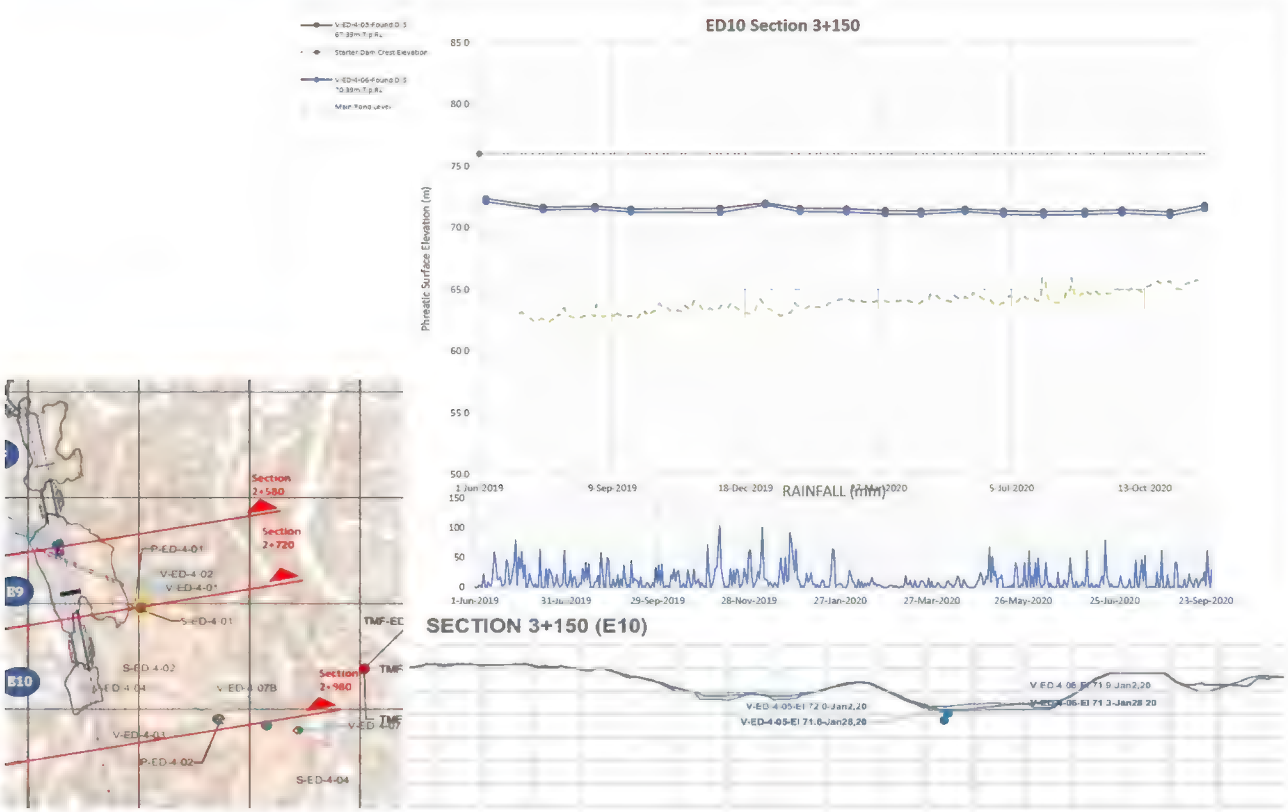

ED7 Section 1+700
DP17E7-01-Fill (Refuse) Dam Core 69.81m Tip RL
V-ED-3-01-Found D/S 63.80m Tip RL
Starter Dam Crest Elevation
V-ED-3-02-Fill D/S 66.30m Tip RL
V-ED-3-03-Found D/S 61.91m RL
V-ED-3-04-Found D/S 63.41m Tip RL
V-ED-3-05-Found D/S 62.27m Tip RL
Main Pond Level
Phreatic Surface Elevation (m)
80.0
70.0
60.0
50.0
40.0
30.0
1-Jun-2019
9-Sep-2019
18-Dec-2019
5-Jul-2020
13-Oct-2020
RAINFALL (mm)
150
100
50
0
1 Jun-2019
31 Jul-2019
29-Sep-2019
28-Nov-2019
27-Jan-2020
27-Mar-2020
26-May-2020
25-Jul-2020
23-Sep-2020
22-Nov-2020
Section 1+400
TMF-ED-
V-ED-3-06
E7
E-CPT17-08
V-ED-3-05
V-ED-3-02
V-ED-3-01
S-ED-3-03
S-ED-3-02
Section 1+700
P-ED-3-02
V-ED-3-03
V-ED-3-04
P-ED-3-01
S-ED-3-01
SECTION 1+700 (E7)
V-ED-3-01-El.68.5-Jan28.20
V-ED-3-03-El.68.2-Jan28.20
DP17E7-01-El.71.5-Jan28.20
V-ED-3-04-El.68.0-Jan28.20
V-ED-3-05-El.68.5-Jan28.20
DP17E7-01
P-ED-3-01
P-ED-3-02
S-ED-3-01
V-ED-3-02-El.68.6-Jan28.20
S-ED-3-02


ED7 Section 1+700
V-ED-3-06 D/S 69.93m Tip RL
Main Pond Level
Starter Dam Crest Elevation
Phreatic Surface Elevation (m)
80.0
70.0
60.0
50.0
40.0
30.0
1-Jun-2019
9-Sep-2019
18-Dec-2019
5-Jul-2020
13-Oct-2020
RAINFALL (mm)
150
100
50
0
1-Jun-2019
31-Jul-2019
29-Sep-2019
28-Nov-2019
27-Jan-2020
27-Mar-2020
26-May-2020
25-Jul-2020
23-Sep-2020
22-Nov-2020
Section 1+400
TMF-ED-
V-ED-3-06
E7
E-CPT17-08
V-ED-3-05
V-ED-3-02
S-ED-3-03
S-ED-3-02
Section 1+700
V-ED-3-03
V-ED-3-04
P-ED-3-01
S-ED-3-01
SECTION 1+400 (E6)
EL. 85 m
V ED 3 06 El 70 4 Jan1,20
V-ED-3-06-El.70.3-Jan28,20


ED9 Section 2+580
DP17E9-01-Found Dam Core 61.70m Tip RL
Starter Dam Crest Elevation
DP17E9-02 Found Dam Core 60.40m Tip RL
Main Pond Level
Phreatic Surface Elevation (m)
80.0
75.0
70.0
65.0
60.0
55.0
50.0
1-Jun-2019
9-Sep-2019
18-Dec-2019
27-Mar-2020
5-Jul-2020
13-Oct-2020
RAINFALL (mm)
150
100
50
0
1-Jun-2019
31-Jul-2019
29-Sep-2019
28-Nov-2019
27-Jan-2020
27-Mar-2020
26-May-2020
25-Jul-2020
23-Sep-2020
22-Nov-2020
E8
E9
E10
Section 2+580
Section 2+720
P-ED-4-01
V-ED-4-02
V-ED-4-01
S-ED-4-01
S-ED-4-02
V-ED-4-07B
V-ED-4-01
P-ED-4-02
SECTION 2+580 (E9)
DP17E9-01-El 67.9-Jan18,20
DP17E9-01-El 68.5-Jan28,20
DP17E9-02-El 67.6-Jan18,20
DP17E9-02-El 68.4-Jan28,20
S-El


ED9 Section 2+580
V-ED-4-01-Found D/S 58.28m Tip RL
Main Pond Level
Starter Dam Crest Elevation
V-ED-4-02-Found D/S 62.33m Tip RL
Phreatic Surface Elevation (m)
85.0
80.0
75.0
70.0
65.0
60.0
55.0
50.0
1-Jun-2019
9-Sep-2019
18-Dec-2019
27-Mar-2020
5-Jul-2020
13-Oct-2020
RAINFALL (mm)
150
100
50
0
1-Jun-2019
31-Jul-2019
29-Sep-2019
28-Nov-2019
27-Jan-2020
27-Mar-2020
26-May-2020
25-Jul-2020
23-Sep-2020
22-Nov-2020
E8
E9
E10
Section 2+580
Section 2+720
P-ED-4-01
V-ED-4-02
V-ED-4-01
S-ED-4-01
S-ED-4-02
V-ED-4-07B
V-ED-4-01
P-ED-4-02
SECTION 2+720 (E9)
V-ED-4-01-El.72.3-Jan2,20
V-ED-4-01-El.70.3-Jan28,20
V-ED-4-02-El.72.2-Jan2,20
V-ED-4-02-El.70.2-Jan28,20
S-El


ED10 Section 2+980
V-ED-4-03 Found D/S 59.14m Tip RL
V-ED-4-07B-Found D/S 61.43m Tip RL
Starter Dam Crest Elevation
V-ED-4-04 Found D/S 66.15m Tip RL
V-ED-4-07-Found D/S 70.39m Tip RL
Main Pond Level
Phreatic Surface Elevation (m)
85.0
80.0
75.0
70.0
65.0
60.0
55.0
50.0
1-Jun-2019
9-Sep-2019
18-Dec-2019
27-Mar-2020
5-Jul-2020
13-Oct-2020
RAINFALL (mm)
150
100
50
0
1-Jun-2019
31-Jul-2019
29-Sep-2019
28-Nov-2019
27-Jan-2020
27-Mar-2020
26-May-2020
25-Jul-2020
23-Sep-2020
Section 2+580
Section 2+720
Section 2+980
P-ED-4-01
V-ED-4-02
V-ED-4-01
S-ED-4-01
S-ED-4-02
V-ED-4-04
V-ED-4-07B
V-ED-4-03
P-ED-4-02
S-ED-4-04
V-ED-4-07
E9
E10
TMF-EL
TMF
SECTION 2+980 (E10)
P-ED-4-02
V-ED-4-03-El 70.1-Jan2,20
V-ED-4-03-El 68.3-Jan28,20
P-ED-4-01
S-ED-4-01
S-ED-4-02
V-ED-4-04-El 70.2-Jan2,20
V-ED-4-04-El 68.5-Jan28,20
V-ED-4-07B-El 71.0-Jan2,20
V-ED-4-07B-El 70.1-Jan28,20
V-ED-4-07-El 70.9-Jan2,20
V-ED-4-07-El 70.1-Jan28,20


ED10 Section 3+150
V-ED-4-05-Found D/S 67.39m Tip RL
Starter Dam Crest Elevation
V-ED-4-06-Found D/S 70.39m Tip RL
Main Pond Level
Phreatic Surface Elevation (m)
85.0
80.0
75.0
70.0
65.0
60.0
55.0
50.0
1-Jun-2019
9-Sep-2019
18-Dec-2019
27-Mar-2020
5-Jul-2020
13-Oct-2020
RAINFALL (mm)
150
100
50
0
1-Jun-2019
31-Jul-2019
29-Sep-2019
28-Nov-2019
27-Jan-2020
27-Mar-2020
26-May-2020
25-Jul-2020
23-Sep-2020
Section 2+580
Section 2+720
Section 2+980
P-ED-4-01
V-ED-4-02
V-ED-4-01
S-ED-4-01
S-ED-4-02
V-ED-4-04
V-ED-4-07B
V-ED-4-03
P-ED-4-02
S-ED-4-04
V-ED-4-07
E9
E10
TMF-EL
TMF
SECTION 3+150 (E10)
V-ED-4-05-El 72.0-Jan2,20
V-ED-4-05-El 71.6-Jan28,20
V-ED-4-06-El 71.9-Jan2,20
V-ED-4-06-El 71.3-Jan28,20

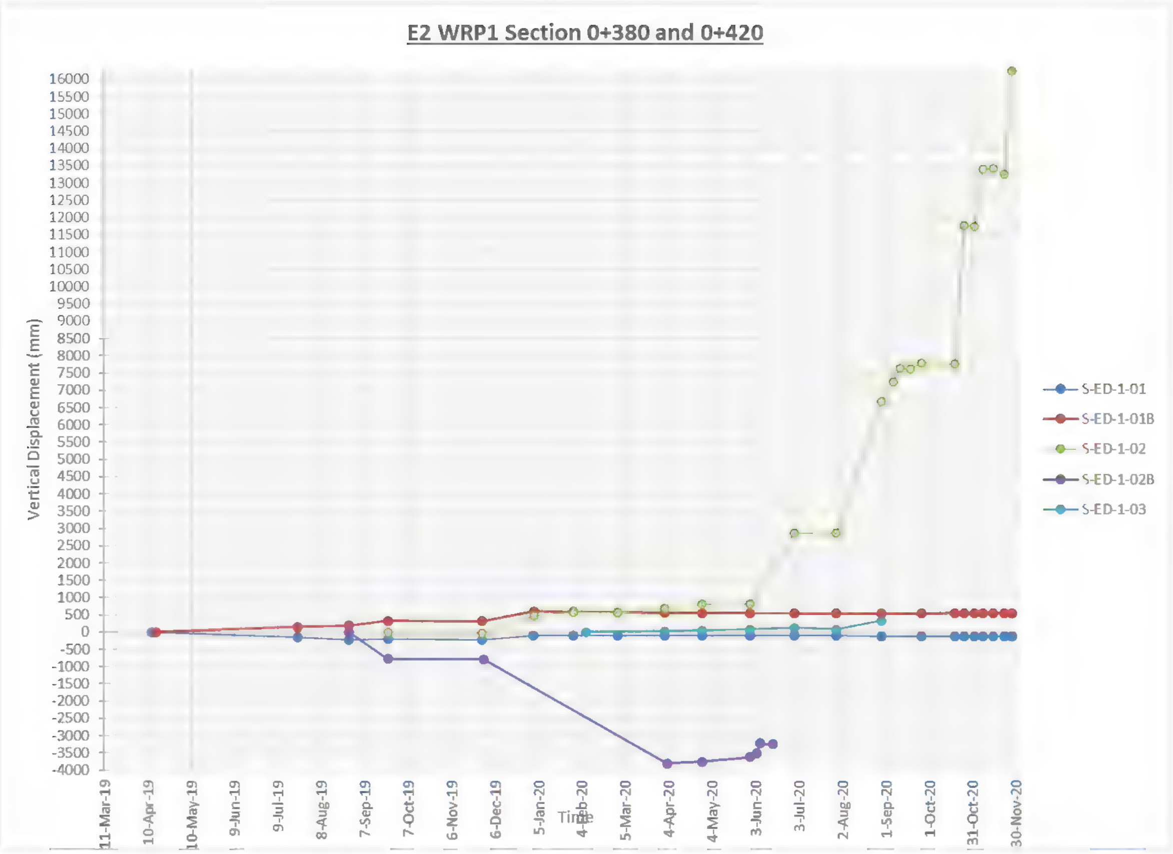
Celda de Asentamiento

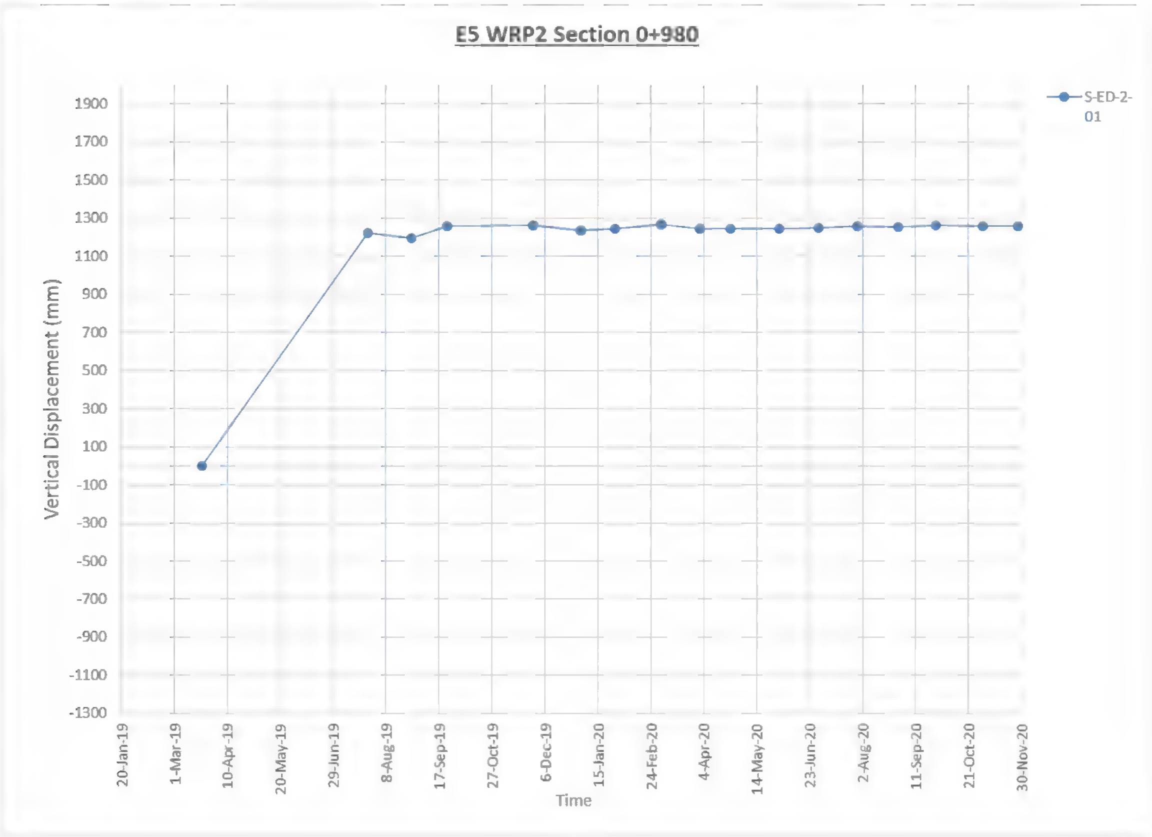
Comentarios de las Celdas de Asentamiento

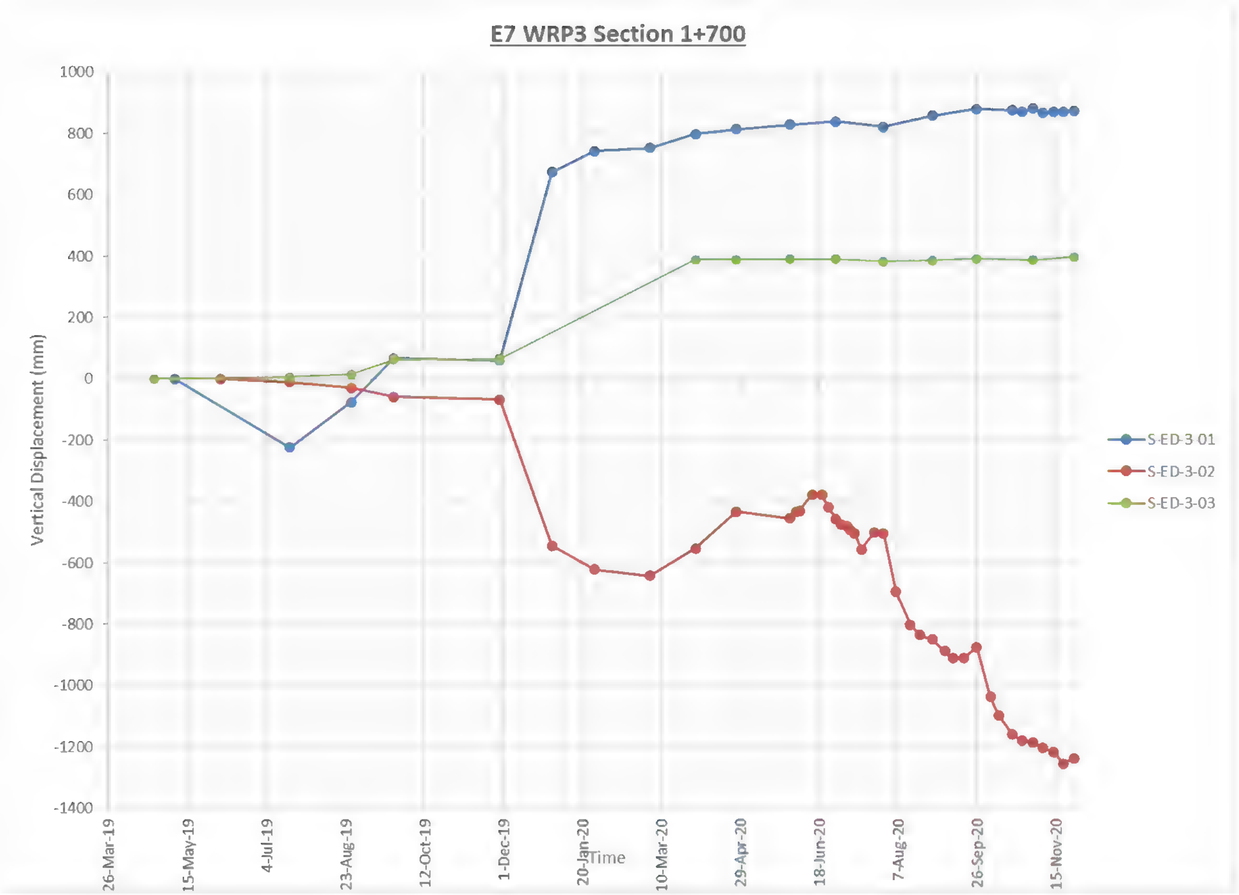
SETTLEMENT CELL

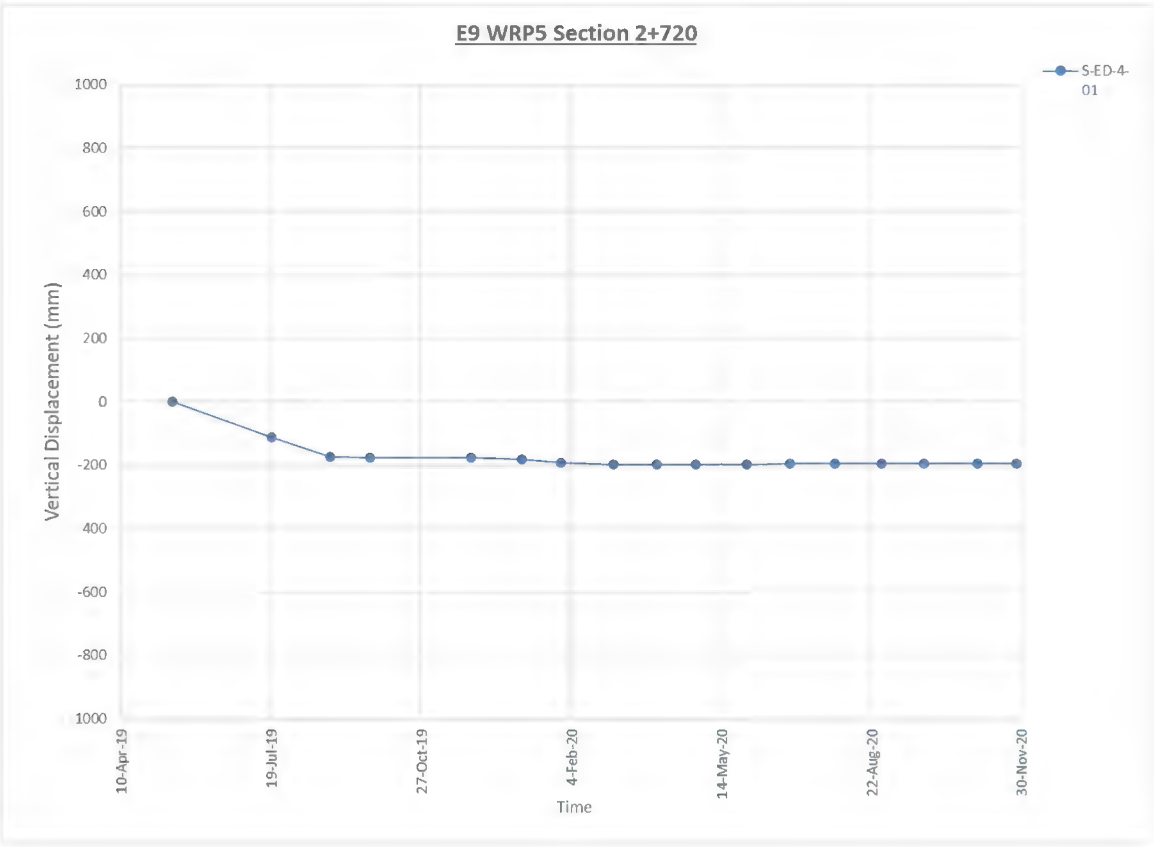
Instrument	Previous Reading (digit)	Previous Reading (digit)	Previous Reading (digit)	Previous Reading (digit)	Previous Reading (digit)	Previous Reading (digit)	Previous Reading (digit)	Previous Reading (digit)	Previous Reading (digit)	Reading (digit)	Temperature (C)	Comments
ID	26/09/2020	03/10/2020	11/10/2020	18/10/2020	25/10/2020	01/11/2020	08/11/2020	15/11/2020	22/11/2020	29/11/2020	T1	
S65-2	*	*	*	*	*	*	*	*	*	*	*	Decommissioned; defective. By Nick: instrument recording very large heaves of up to 5m which started in December 2019 - not credible. Damage Appears differents readings every second.
S73-1	6172.8	6056.3	6023.3	5983.8	5955.1	5933.1	5904.3	5877.1	5831.1	Not Reading	Not Reading	Was stable April 2020, but then it began to "freerise". By Nick: over 2m heave - presumed erroneous
S82-2	*	*	*	*	*	*	*	*	*	*	*	Damaged - Cable was recently damaged during slope repairs, but is salvageable. By Nick: looks like reading error with u to 700mm heave between reading events.
S84-1	6028.5	6022.9	6021.9	6029.6	6019.6	6017.2	6013.7	6011.8	6014.7	6013.2	25.3	located near the crest of the NDS1 dam. Quite a lot of sand filling activity at elevation 77m. By Nick: all showing approximately 200mm settlement – seem credible-reliable.
S84-2	6475.0	6471.5	6417.9	6469.5	6468.2	6462.2	6466.0	6465.1	6462.5	6460.3	25.5	located near the crest of the NDS1 dam. Quite a lot of sand filling activity at elevation 77m. By Nick: appears erroneous counter other movements up to 600mm heave.
S-ED-1-02B	*	*	*	*	*	*	*	*	*	*	*	Damaged - area of WRP1 is frequently flooded. most likely defunct. By Nick: Showing a large heave 2.9m – presumably not possible - majority between readings. S1-02B noted by Thania as defective. I would conclude that both of these instruments are defective or erroneous.
S-ED-3-02	7220.5	7236.0	7241.7	7247.7	7249.7	7250.1	7252.0	7253.2	7256.8	7255.2	24.4	possibly stabilizing. By Nick: All the results move between early December and march and then stabilise, also seem to move at the same time in contrary directions – these results of 400-800mm settlement and heave at the same time do not seem credible.
S-ED-4-04	7921.9	7921.9	7921.3	7908.6	7909.9	7918.4	7910.8	7910.8	7915.4	7911.2	25.2	unusually high upheaval; most likely defunct. By Nick: indicates large heave of 800mm but increasing fairly steady which seems counter the other observations
S-ND-3-01	6177.1	6164.8		6159.8	6156.5	6153.9	6154.0	6149.8	6157.6	6155.5	25.0	located on WRP3 near Sand Dam toe.
S-ND-4-01	7233.4	7175.7	7164.5	7155.0	7145.6	7125.3	7106.2	7095.1	7076.5	7048.1	25.7	Channel A flooded and backed-up.
S-ED-1-02	6400.0			6101.0	6039.7	6042.2	5892.2	5890.3	5705.1	5634.0	27.6	Area of WRP1 is frequently flooded. Presented erroneous readings before. This is why it has been included in the weekly monitoring list.

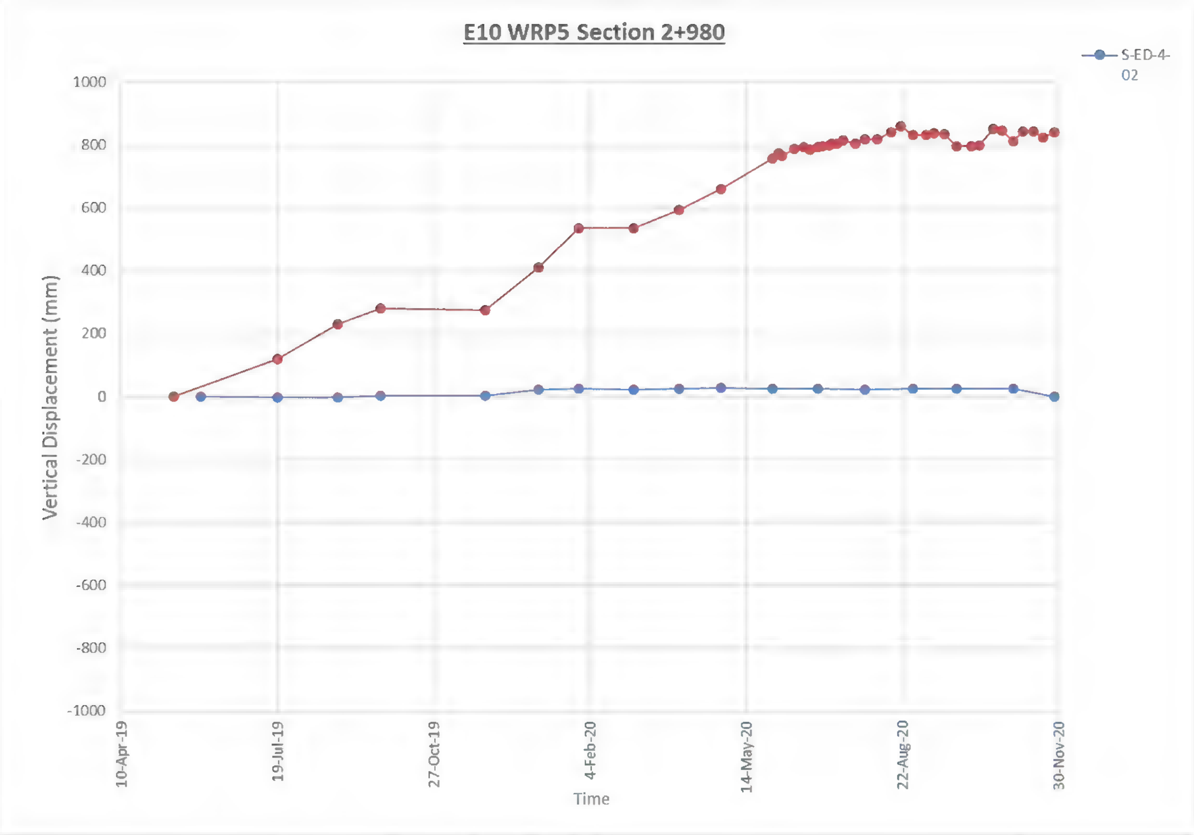
Graficas

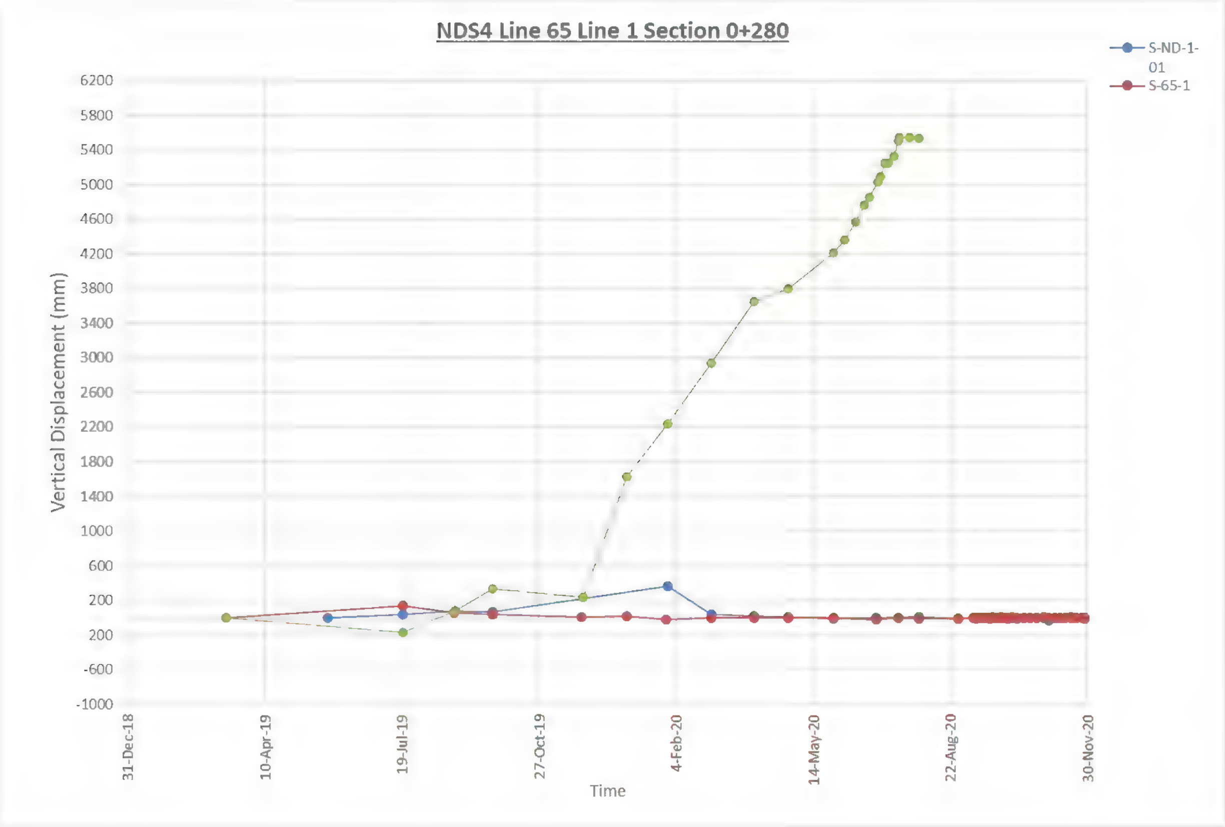

E2 WRP1 Section 0+380 and 0+420
Vertical Displacement (mm)
16000
15500
15000
14500
14000
13500
13000
12500
12000
11500
11000
10500
10000
9500
9000
8500
8000
7500
7000
6500
6000
5500
5000
4500
4000
3500
3000
2500
2000
1500
1000
500
0
-500
-1000
-1500
-2000
-2500
-3000
-3500
-4000
11-Mar-19
10-Apr-19
10-May-19
9-Jun-19
9-Jul-19
8-Aug-19
7-Sep-19
7-Oct-19
6-Nov-19
6-Dec-19
5-Jan-20
4-Feb-20
5-Mar-20
4-Apr-20
4-May-20
3-Jun-20
3-Jul-20
2-Aug-20
1-Sep-20
1-Oct-20
31-Oct-20
30-Nov-20
Time
S-ED-1-01
S-ED-1-01B
S-ED-1-02
S-ED-1-02B
S-ED-1-03

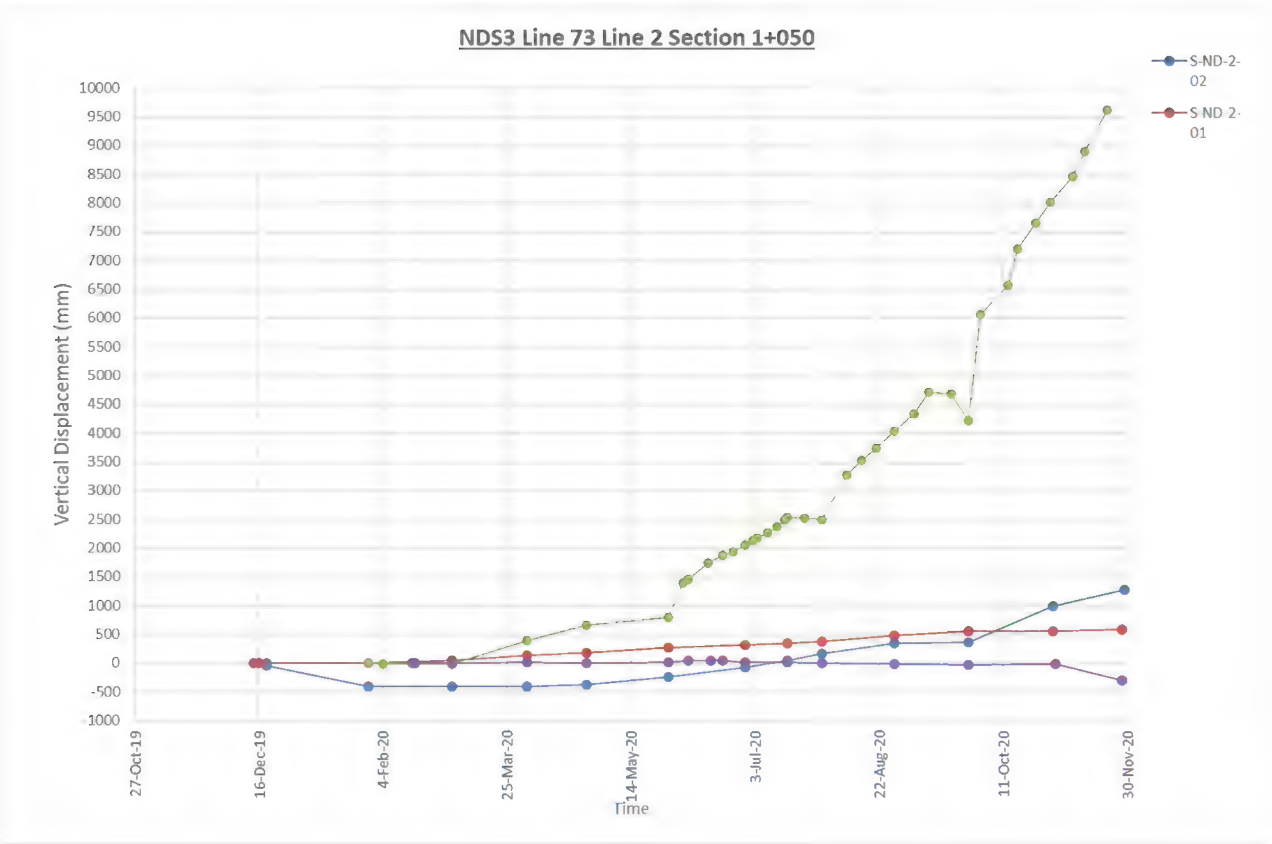

E5 WRP2 Section 0+980
Vertical Displacement (mm)
1900
1700
1500
1300
1100
900
700
500
300
100
-100
-300
-500
-700
-900
-1100
-1300
20-Jan-19
1-Mar-19
10-Apr-19
20-May-19
29-Jun-19
8-Aug-19
17-Sep-19
27-Oct-19
6-Dec-19
15-Jan-20
24-Feb-20
4-Apr-20
14-May-20
23-Jun-20
2-Aug-20
11-Sep-20
21-Oct-20
30-Nov-20
Time
S-ED-2-01

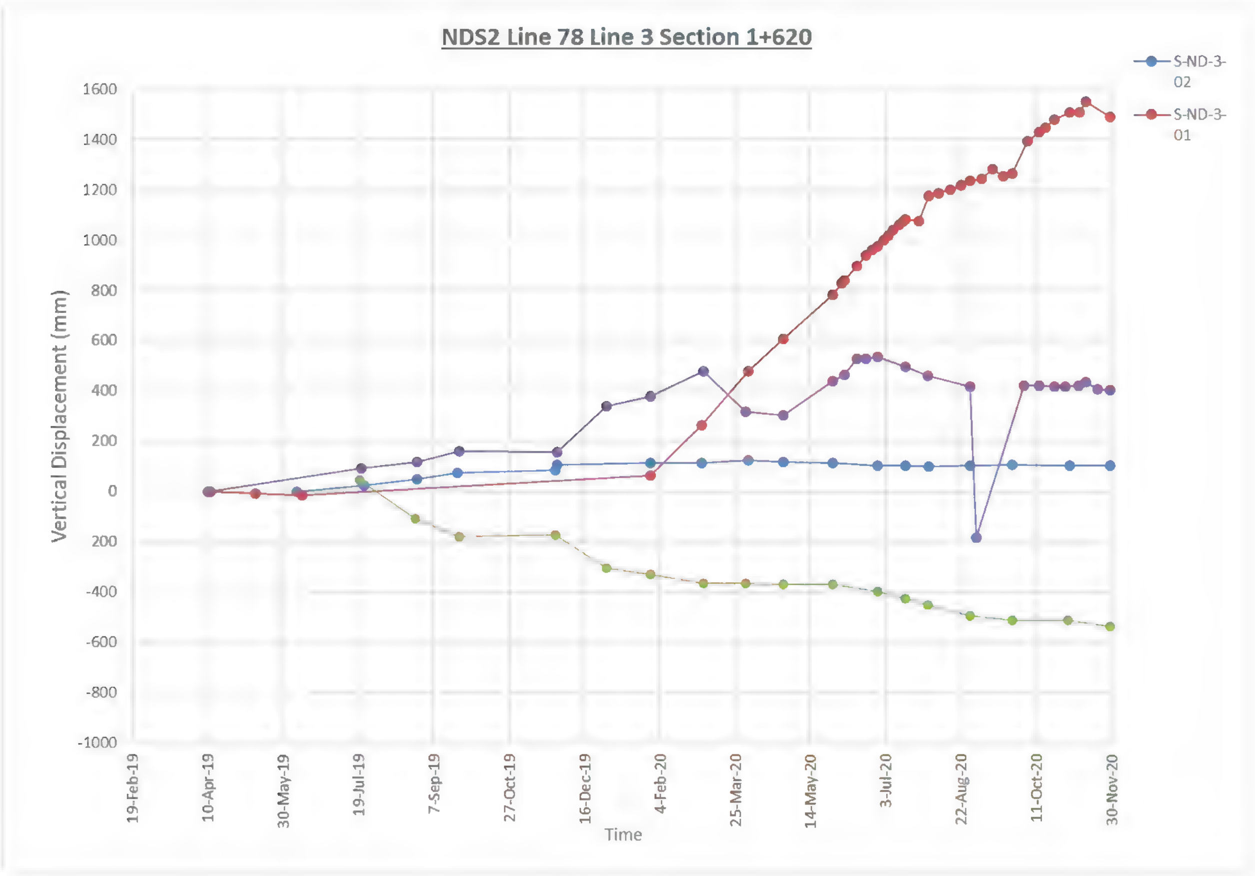

E7 WRP3 Section 1+700
Vertical Displacement (mm)
1000
800
600
400
200
0
-200
-400
-600
-800
-1000
-1200
-1400
26-Mar-19
15-May-19
4-Jul-19
23-Aug-19
12-Oct-19
1-Dec-19
20-Jan-20
10-Mar-20
29-Apr-20
18-Jun-20
7-Aug-20
26-Sep-20
15-Nov-20
Time
S-ED-3 01
S-ED-3-02
S-ED-3-03

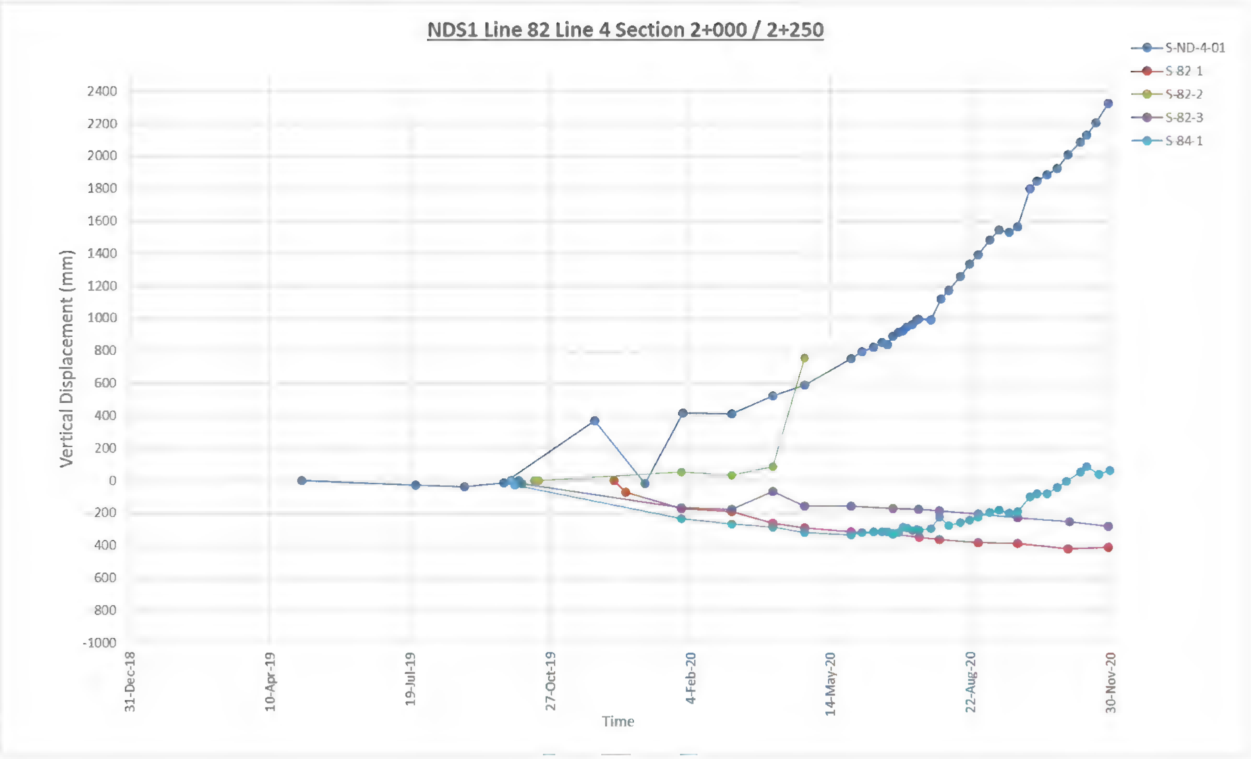

E9 WRP5 Section 2+720
S-ED-4-01
Vertical Displacement (mm)
1000
800
600
400
200
0
-200
400
-600
-800
1000
10-Apr-19
19-Jul-19
27-Oct-19
4-Feb-20
14-May-20
22-Aug-20
30-Nov-20
Time

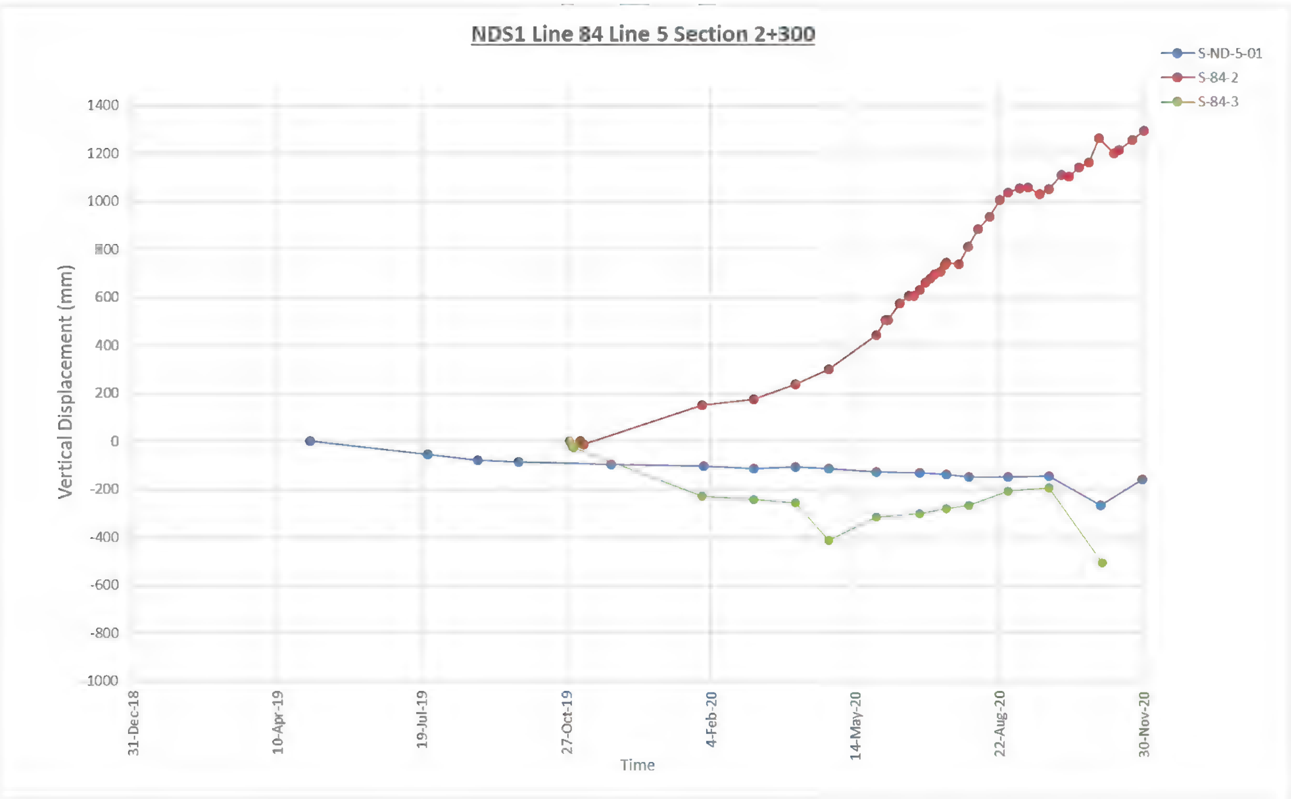

E10 WRP5 Section 2+980
S-ED-4-02
1000
800
600
400
200
0
-200
-400
-600
-800
-1000
Vertical Displacement (mm)
10-Apr-19
19-Jul-19
27-Oct-19
4-Feb-20
14-May-20
22-Aug-20
30-Nov-20
Time


NDS4 Line 65 Line 1 Section 0+280
S-ND-1-01
S-65-1
6200
5800
5400
5000
4600
4200
3800
3400
3000
2600
2200
1800
1400
1000
600
200
200
-600
-1000
Vertical Displacement (mm)
31-Dec-18
10-Apr-19
19-Jul-19
27-Oct-19
4-Feb-20
14-May-20
22-Aug-20
30-Nov-20
Time


NDS3 Line 73 Line 2 Section 1+050
S-ND-2-02
S-ND-2-01
Vertical Displacement (mm)
10000
9500
9000
8500
8000
7500
7000
6500
6000
5500
5000
4500
4000
3500
3000
2500
2000
1500
1000
500
0
-500
-1000
27-Oct-19
16-Dec-19
4-Feb-20
25-Mar-20
14-May-20
3-Jul-20
22-Aug-20
11-Oct-20
30-Nov-20
Time


NDS2 Line 78 Line 3 Section 1+620
S-ND-3-02
S-ND-3-01
Vertical Displacement (mm)
1600
1400
1200
1000
800
600
400
200
0
200
-400
-600
-800
-1000
19-Feb-19
10-Apr-19
30-May-19
19-Jul-19
7-Sep-19
27-Oct-19
16-Dec-19
4-Feb-20
25-Mar-20
14-May-20
3-Jul-20
22-Aug-20
11-Oct-20
30-Nov-20
Time

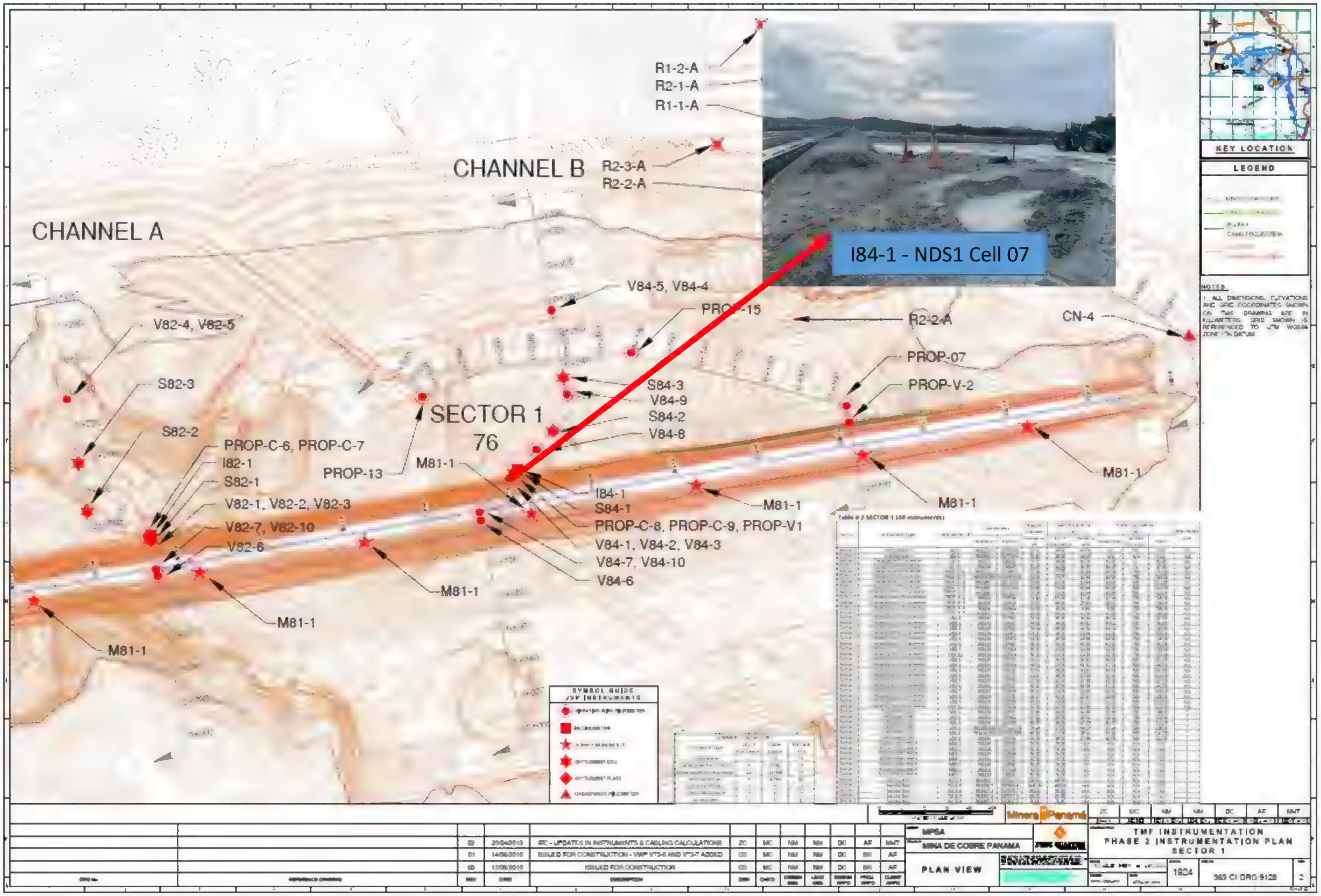

NDS1 Line 82 Line 4 Section 2+000 / 2+250
S-ND-4-01
S-82-1
S-82-2
S-82-3
S-84-1
Vertical Displacement (mm)
2400
2200
2000
1800
1600
1400
1200
1000
800
600
400
200
0
-200
-400
-600
-800
-1000
31-Dec-18
10-Apr-19
19-Jul-19
27-Oct-19
4-Feb-20
14-May-20
22-Aug-20
30-Nov-20
Time


NDS1 Line 84 Line 5 Section 2+300
S-ND-5-01
S-84-2
S-84-3
Vertical Displacement (mm)
1400
1200
1000
800
600
400
200
0
-200
-400
-600
-800
-1000
31-Dec-18
10-Apr-19
19-Jul-19
27-Oct-19
4-Feb-20
14-May-20
22-Aug-20
30-Nov-20
Time

Inclinómetros

Localización, Data y Gráficas

I84-1



I84-1 - NDS1 Cell 07
R1-2-A
R2-1-A
R1-1-A
CHANNEL B
R2-3-A
R2-2-A
CHANNEL A
V84-5, V84-4
PROP-15
R2-2-A
CN-4
V82-4, V82-5
S82-3
PROP-07
PROP-V-2
S84-3
V84-9
S84-2
V84-8
SECTOR 1
76
S82-2
PROP-C-6, PROP-C-7
I82-1
S82-1
PROP-13
M81-1
I84-1
S84-1
PROP-C-8, PROP-C-9, PROP-V1
V84-1, V84-2, V84-3
V84-7, V84-10
V84-6
V82-1, V82-2, V82-3
V82-7, V82-10
V82-6
M81-1
KEY LOCATION
LEGEND
SYMBOL GUIDE
Table # 2 SECTOR 1
ISSUED FOR CONSTRUCTION
PLAN VIEW
MPSA
MINA DE COBRE PANAMA
Minera Panamá
TMF INSTRUMENTATION
PHASE 2 INSTRUMENTATION PLAN
SECTOR 1
1804
363 CI DRG 9128
2

Depth	10/04/2020	11/04/2020	30/04/2020	09/05/2020	31/05/2020	07/06/2020	14/06/2020	28/06/2020	05/07/2020	12/07/2020	17/07/2020	26/07/2020	02/08/2020	09/08/2020	16/08/2020	23/08/2020	30/08/2020	06/09/2020	13/09/2020	20/09/2020	27/09/2020	04/10/2020	11/10/2020	19/10/2020	25/10/2020	01/11/2020	08/11/2020	16/11/2020	23/11/2020	29/11/2020
0.5													0	0.12	-0.48	-0.97	0.19	-0.68	-0.88	-1.32	-1.31	0.34	-2.1	-0.6	-2.76	-2.51	-2.73	-2.65	1.13	1.15
1													0	1.55	-0.01	-0.09	0.01	-0.18	-0.25	-0.51	-0.58	-0.54	-1.3	-0.9	-1.4	-1.07	-1.16	-1.48	-0.73	-0.08
1.5													0	0.3	0.31	0.24	0.12	0.07	0.02	-0.07	-0.23	-0.1	-0.7	-0.69	-1.15	-1.09	-1.13	-1.05	-0.19	0.23
2													0	0.36	0.63	0.6	0.55	0.5	0.75	0.84	0.68	0.74	-0.09	0.54	-0.12	0.08	0.07	0.15	0.51	1.22
2.5													0	0.04	1.2	1.1	1.07	1.11	1.07	1.06	0.93	0.88	0.86	0.67	-0.72	0.36	0.31	0.34	0.08	0.74
3													0	-0.7	-0.75	-0.84	-0.87	-0.89	-0.9	-0.95	-1.1	-1.22	-1.2	-1.37	-1.18	-1.67	-1.74	-1.78	-3.25	-2.24
3.5										0	0.15	0.38	1.13	-0.06	-0.11	-0.16	-0.2	-0.21	-0.22	-0.24	-0.37	-0.37	-0.41	-0.52	-0.66	-0.71	-0.74	-0.82	-1.33	-1.56
4										0	0.13	0.31	0.45	0.27	0.29	0.26	0.21	0.2	0.19	0.19	0.08	0.11	0.07	-0.03	-0.12	-0.29	-0.35	-0.41	-0.27	-0.18
4.5										0	0.19	0.29	-0.53	-0.66	-0.69	-0.7	-0.74	-0.73	-0.77	-0.77	-0.86	-0.81	-0.82	-0.9	-1.01	-1.09	-1.17	-1.23	-1.22	-1.13
5										0	1.07	0.2	-1.42	-1	-1.71	-1.73	-1.76	-1.76	-1.82	-1.79	-1.87	-1.78	-1.82	-1.82	-1.95	-1.39	-1.49	-1.63	-1.94	-2.16
5.5										0	-0.18	-0.25	-0.09	-1.42	-1.4	-1.44	-0.55	-1.45	-0.57	-0.09	-0.69	-1.61	-1.06	-1.17	-1.81	-1.96	-1.42	-1.54	-1.7	-1.86
6										0	-0.07	-0.82	-0.15	-0.32	-1.02	-1.05	-0.12	-1.08	-0.14	-0.16	-0.27	-1.24	-1.3	0.18	-1.46	-1.74	-1.86	-1.93	-1.82	-1.68
6.5									0	2.85	2.99	3.02	2.78	2.83	2.81	2.79	2.78	2.79	2.74	2.74	2.66	2.68	2.63	-0.38	2.46	2.25	2.15	2.06	2.15	2.19
7									0	-0.08	0.05	0.09	-0.12	-0.11	-0.11	-0.11	-0.16	-0.14	-0.18	-0.18	-0.27	-0.24	-0.28	-0.35	-0.43	-0.62	-0.74	-0.85	-0.76	-0.67
7.5	0	0.18	0.47	0.92	-7.39	-7.84	-7.79	-7.94	-15.68	-16.37	-16.32	-16.25	-16.56	-16.59	-16.58	-16.62	-13.29	-16.66	-16.65	-16.7	-16.74	-16.79	-16.85	-16.89	-16.94	-17.07	-17.11	-17.22	-17.39	-17.42
8	0	1.07	-0.02	0.73	-6.65	-6.7	-6.75	-6.88	-7.7	-7.67	-7.61	-7.57	-7.7	-7.72	-7.71	-7.74	-5.13	-7.74	-7.75	-7.79	-7.85	-7.89	-7.9	-7.93	-8.01	-8.13	-8.2	-8.24	-8.25	-8.25
8.5	0	1.03	0.89	0.85	-0.15	-0.28	-0.26	-0.3	-0.39	-0.26	-0.24	-0.16	-0.27	-0.27	-0.21	-0.23	0.15	-0.24	-0.22	-0.28	-0.33	-0.34	-0.38	-0.43	-0.49	-0.6	-0.63	-0.73	-0.78	-0.78
9	0	0.27	0.19	0.1	-1.02	-1.08	-1.1	-1.13	-1.19	-1.22	-1.15	-1.16	-1.44	-1.44	-1.44	-1.45	-2.69	-1.49	-1.5	-1.54	-1.59	-1.62	-1.66	-1.75	-1.86	-2.09	-2.17	-2.32	-2.43	-2.39
9.5	0	-0.01	-0.08	-0.13	-2.22	-2.29	-2.32	-2.31	-2.13	-2.16	-2.08	-2.18	-2.45	-2.45	-2.5	-2.53	-2.39	-2.54	-2.56	-2.58	-2.64	-2.59	-2.67	-2.68	-2.8	-2.88	-2.95	-3.05	-3.2	-3.3
10	0	-0.03	-0.09	-0.15	-1.02	-1.06	-1.09	-1.12	-0.96	-1.01	-1	-0.96	-1.03	-1.02	-0.96	-0.97	0.15	-1.02	-1	-1.04	-1.06	-1.12	-1.13	-1.19	-1.26	-1.34	-1.35	-1.47	-1.46	-1.42
10.5	0	0.01	-0.06	-0.07	-0.25	-0.34	-0.32	-0.34	-0.32	-0.54	-0.49	-0.42	-0.48	-0.36	-0.31	-0.3	-0.31	-0.3	-0.29	-0.32	-0.4	-0.41	-0.47	-0.51	-0.66	-0.83	-0.94	-1.05	-0.94	-0.8
11	0	-0.01	-0.07	-0.11	-0.29	-0.35	-0.36	-0.36	-0.34	-0.66	-0.59	-0.65	-0.74	-0.72	-0.74	-0.74	-0.76	-0.76	-0.77	-0.78	-0.86	-0.83	-0.92	-0.97	-1.08	-1.27	-1.38	-1.5	-1.47	-1.47
11.5	0	-0.02	-0.06	-0.17	-0.27	-0.31	-0.29	-0.28	-0.2	-0.32	-0.42	-0.25	-0.23	-0.14	-0.07	-0.04	0.06	-0.01	0.04	-0.09	-0.03	-0.14	-0.14	-0.17	-0.19	-0.27	-0.21	-0.32	-0.31	-1.09
12	0	-0.07	-0.66	-0.72	-0.13	-0.15	-0.18	-0.21	0	-0.09	0.6	0.3	0.54	0.62	0.83	0.86	0.9	0.88	0.9	0.92	0.87	0.8	0.85	0.84	0.85	0.91	1	0.99	1.18	-5.16
12.5	0	0.07	-0.03	0	-0.13	-0.15	-0.24	-0.2	-0.16	-0.25	-0.08	-0.36	-0.57	-0.66	-0.87	-0.92	-1.02	-0.98	-1.03	-1.03	-1.15	-1.01	-1.08	-1.1	-1.21	-1.42	-1.62	-1.65	-1.73	1.66
13	0	0	0.04	0.07	0.11	0.11	0.13	0.19	0.25	0.38	0.45	0.55	0.64	0.71	0.88	0.91	0.94	0.96	0.95	0.95	0.88	0.87	0.86	0.82	0.79	0.7	0.68	0.65	0.77	2.74
13.5	0	0.03	0.02	0.03	0.02	-0.01	-0.03	0.01	0.02	-0.02	0.03	-0.01	0	0	0.01	0.02	0.01	0.02	0.02	0	-0.07	-0.05	-0.08	-0.13	-0.2	-0.29	-0.38	-0.44	-0.45	1.19
14	0	0	-0.04	-0.05	-0.04	-0.08	-0.09	-0.08	-0.07	-0.09	-0.13	-0.23	-0.28	-0.33	-0.41	-0.43	-0.47	-0.46	-0.48	-0.51	-0.6	-0.56	-0.59	-0.65	-0.73	-0.86	-0.93	-1.01	-1.14	-1.25
14.5	0	-0.01	0	-0.01	0	0	0	0.01	-0.03	-0.07	-0.06	-0.04	-0.07	-0.06	-0.04	-0.03	-0.02	-0.03	-0.02	-0.03	-0.13	-0.15	-0.18	-0.26	-0.31	-0.44	-0.51	-0.59	-0.63	-0.67
15	0	0.01	0.02	0.04	0.05	0.05	0.05	0.08	0.05	0	0.02	0.05	0.06	0.1	0.1	0.1	0.12	0.11	0.13	0.11	0.04	0.04	0	-0.08	-0.15	-0.25	-0.32	-0.38	-0.43	-0.41
15.5	0	-0.01	0.01	0.03	0.05	0.05	0.05	0.05	0.01	-0.04	0	0.04	0.09	0.1	0.15	0.16	0.14	0.15	0.14	0.14	0.04	0.03	-0.01	-0.07	-0.12	-0.26	-0.31	-0.39	-0.41	-0.34
16	0	-0.03	0	-0.03	0.03	0.01	0.05	0.03	0.02	0.04	0.09	0.14	0.15	0.21	0.28	0.3	0.31	0.31	0.32	0.31	0.23	0.22	0.18	0.15	0.07	-0.05	-0.09	-0.15	-0.16	-0.09
16.5	0	-0.01	-0.01	0.01	0.01	0.02	0	0.02	0.02	0	0.05	0.06	0.08	0.1	0.15	0.15	0.16	0.13	0.15	0.14	0.05	0.05	0.03	-0.05	-0.1	-0.21	-0.27	-0.34	-0.34	-0.34
17	0	0.01	0.03	0.05	0.08	0.07	0.08	0.08	0.1	0.05	0.03	0.03	0.03	0.02	0.01	0	0	0	-0.03	-0.02	-0.1	-0.08	-0.14	-0.16	-0.22	-0.33	-0.33	-0.42	-0.47	-0.52
17.5	0	-0.02	-0.01	0.01	0.02	0.03	0.03	0.03	0.01	-0.04	-0.03	-0.01	0.01	0.01	0.02	0.03	0.04	0.04	0.05	0.04	-0.02	-0.01	-0.05	-0.1	-0.14	-0.22	-0.25	-0.28	-0.34	-0.37
18	0	0.01	0.03	0.03	0.06	0.06	0.07	0.06	0.05	0.04	0.07	0.07	0.05	0.11	0.1	0.11	0.11	0.11	0.11	0.11	0.05	0.07	0.03	-0.02	-0.08	-0.18	-0.19	-0.27	-0.28	-0.25
18.5	0	0.01	0.03	0.03	0.05	0.06	0.06	0.08	0.03	0	0.01	0.03	0.03	0.05	0.06	0.06	0.05	0.05	0.04	0.03	-0.07	-0.06	-0.11	-0.15	-0.2	-0.29	-0.32	-0.37	-0.4	-0.37
19	0	-0.02	0.02	0.01	0.06	0.05	0.06	0.06	0.05	0.08	0.07	0.09	0.07	0.06	0.08	0.08	0.08	0.09	0.09	0.1	0.05	0.07	0.04	0	-0.01	-0.03	-0.03	-0.05	-0.09	-0.07
19.5	0	-0.01	0	-0.01	0.01	0.01	0.01	0.01	0.01	-0.05	-0.03	-0.05	-0.01	-0.02	-0.01	0	-0.01	0	-0.01	-0.01	-0.08	-0.1	-0.11	-0.17	-0.18	-0.26	-0.25	-0.3	-0.34	-0.33
20	0	0	0.02	0.05	0.07	0.06	0.07	0.09	0.09	0.08	0.14	0.21	0.25	0.3	0.35	0.35	0.36	0.37	0.36	0.38	0.32	0.33	0.31	0.27	0.23	0.18	0.17	0.16	0.3	0.37
20.5	0	0	0.01	0.01	0.04	0.03	0.07	0.05	0.07	0.12	0.17	0.26	0.29	0.35	0.39	0.39	0.39	0.4	0.38	0.41	0.34	0.4	0.36	0.34	0.32	0.28	0.31	0.31	0.32	0.35
21	0	-0.01	-0.01	-0.01	0.02	0.03	0.02	0.03	0.05	-0.04	-0.1	-0.18	-0.26	-0.32	-0.35	-0.37	-0.38	-0.37	-0.41	-0.4	-0.47	-0.45	-0.51	-0.56	-0.56	-0.63	-0.71	-0.77	-0.89	-0.92
21.5	0	-0.01	-0.08	-0.05	-0.06	-0.06	-0.08	-0.06	-0.11	-0.21	-0.3	-0.63	-1.08	-1.23	-1.19	-1.11	-1.1	-1.1	-1.1	-1.11	-1.16	-1.15	-1.2	-1.25	-1.3	-1.36	-1.42	-1.49	-1.62	-1.8
22	0	-0.02	0.08	0.05	0.13	0.14	0.14	0.16	0.19	0.33	0.43	0.82	1.19	1.33	1.3	1.25	1.25	1.23	1.24	1.23	1.21	1.22	1.22	1.19	1.21	1.21	1.33	1.34	1.45	1.56
22.5	0	-0.01	0.05	0.09	0.15	0.15	0.16	0.21	0.22	0.36	0.53	0.67	0.76	0.9	0.91	0.91	0.93	0.94	0.95	0.95	0.93	1	0.98	0.97	0.99	0.97	1.01	1.05	1.19	1.42
23	0	0.01	-0.01	0	-0.01	-0.02	-0.02	0.02	0.01	-0.13	-0.19	-0.34	-0.41	-0.49	-0.48	-0.54	-0.54	-0.5	-0.53	-0.54	-0.63	-0.57	-0.64	-0.64	-0.69	-0.73	-0.83	-0.82	-0.91	-0.96
23.5	0	-0.03	-0.02	-0.03	0.01	-0.03	-0.02	-0.01	-0.06	-0.08	-0.14	-0.21	-0.27	-0.31	-0.4	-0.39	-0.42	-0.46	-0.44	-0.48	-0.48	-0.5	-0.53	-0.57	-0.61	-0.65	-0.62	-0.71	-0.81	-1.01
24	0	-0.02	0	0.01	0.03	0.02	0.05	0.08	0.08	0.06	0.09	0.11	0.12	0.11	0.16	0.16	0.15	0.18	0.19	0.17	0.12	0.18	0.16	0.17	0.17	0.14	0.11	0.17	0.12	0.14
24.5	0	0	0	0.04	0.03	0.03	0.04	0.09	0.06	0.02	-0.03	-0.15	-0.18	-0.2	-0.26	-0.27	-0.29	-0.33	-0.34	-0.37	-0.38	-0.36	-0.38	-0.39	-0.4	-0.44	-0.44	-0.46	-0.49	-0.5
25	0	-0.02	0.02	0	0.07	0.06	0.08	0.06	0.1	0.16	0.2	0.27	0.27	0.25	0.29	0.32	0.33	0.36	0.36	0.37	0.32	0.33	0.32	0.31	0.32	0.31	0.31	0.3	0.29	0.22
25.5	0	-0.02	0	-0.02	0.03	0.02	0.01	0.01	0.01	0.02	0.02	0.03	0.04	0.05	0.05	0.03	0.01	0.01	-0.01	0	-0.05	-0.02	-0.03	-0.05	-0.08	-0.12	-0.11	-0.11	-0.1	-0.1
26	0	-0.01	-0.01	0	-0.01	-0.02	-0.02	-0.01	-0.03	-0.09	-0.1	-0.1	-0.09	-0.1	-0.1	-0.11	-0.13	-0.11	-0.13	-0.14	-0.21	-0.18	-0.22	-0.26	-0.29	-0.35	-0.36	-0.42	-0.44	-0.47
26.5	0	-0.02	-0.01	-0.04	0	-0.02	-0.03	-0.03	-0.06	-0.03	-0.05	-0.06	-0.06	-0.06	-0.08	-0.08	-0.07	-0.08	-0.08	-0.1	-0.13	-0.14	-0.16	-0.2	-0.24	-0.28	-0.25	-0.3	-0.32	-0.41
27	0	-0.02	0	0	0.03	0.02	0.02	0.06	0.02	0.03	0.02	0.03	0.02	0.03	-1.08	0.03	0.04	0.04	0.05	0.03	-0.01	-0.02	-0.02	-0.06	-0.06	-0.11	-0.08	-0.14	-0.14	-0.15
27.5	0	0	-0.02	0.02	-0.01	-0.02	0.01	0.07	0.01	-0.04	-0.02	-0.11	-0.12	-0.11	-0.15	-0.16	-0.19	-0.19	-0.22	-0.25	-0.3	-0.3	-0.33	-0.34	-0.36	-0.39	-0.4	-0.39	-0.39	-0.41
28	0	-0.03	0.01	-0.02	0.02	-0.02	0	-0.07	-0.03	0.05	0.02	0.06	0.06	0.05	0.04	0.04	0.05	0.04	0.05	0.05	0.04	0.05	0.05	0	-0.02	-0.07	-0.03	-0.07	-0.14	-0.24
28.5	0	-0.02	-0.02	-0.03	-0.01	-0.02	-0.03	-0.02	-0.02	-0.05	-0.11	-0.15	-0.17	-0.23	-0.22	-0.22	-0.25	-0.26	-0.26	-0.24	-0.31	-0.28	-0.31	-0.34	-0.32	-0.36	-0.37	-0.33	-0.36	-0.42
29	0	-0.02	0.01	0.02	0.05	0.07	0.06	0.07	0.09	0.1	0.09	0.04	0.08	0.06	0.03	0.04	0.04	0.03	0.01	0.03	-0.01	0.02	0.03	0.01	0.01	-0.05	-0.01	-0.03	-0.08	-0.09
29.5	0	-0.01	0.01	0	0.03	0.03	0.05	0.05	0.07	0.05	0.07	0.07	0.02	0.05	0.02	0.02	0	0.02	0.01	0.03	-0.04	0.01	-0.03	-0.03	-0.01	-0.05	-0.08	-0.06	-0.07	-0.07
30	0	0.01	-0.04	-0.02	-0.02	-0.05	-0.02	0.02	-0.01	-0.08	-0.12	-0.22	-0.31	-0.32	-0.4	-0.41	-0.42	-0.42	-0.44	-0.44	-0.48	-0.46	-0.48	-0.51	-0.52	-0.55	-0.55	-0.59	-0.65	-0.73
30.5	0	-0.02	0.01	-0.01	0.01	0.01	0.02	-0.19	-0.13	0	-0.03	-0.09	-0.12	-0.16	-0.18	-0.18	-0.22	-0.2	-0.2	-0.21	-0.24	-0.22	-0.25	-0.24	-0.24	-0.26	-0.25	-0.25	-0.32	-0.31
31	0	0	0	0	0.01	0	-0.01	0.15	0.18	0.01	-0.02	-0.08	-0.1	-0.15	-0.18	-0.2	-0.21	-0.2	-0.21	-0.22	-0.26	-0.23	-0.24	-0.27	-0.26	-0.3	-0.33	-0.31	-0.33	-0.44
31.5	0	0	-0.02	0.01	-0.02	-0.02	0.02	0.04	0.02	-0.01	-0.08	-0.16	-0.2	-0.23	-0.28	-0.33	-0.38	-0.34	-0.37	-0.35	-0.43	-0.37	-0.4	-0.37	-0.37	-0.39	-0.43	-0.45	-0.52	-0.57
32	0	-0.03	-0.05	-0.04	-0.04	-0.07	-0.07	-0.07	-0.08	-0.12	-0.17	-0.26	-0.28	-0.31	-0.35	-0.34	-0.34	-0.37	-0.4	-0.39	-0.42	-0.44	-0.47	-0.47	-0.48	-0.54	-0.51	-0.54	-0.6	-0.67
32.5	0	0	-0.01	0.03	0.04	0.04	0.06	0.09	0.1	0.07	0.05	0.02	-0.03	-0.06	-0.08	-0.09	-0.09	-0.05	-0.07	-0.03	-0.13	-0.02	-0.02	-0.02	-0.01	-0.03	-0.1	-0.05	-0.02	-0.03
33	0	0	-0.04	-0.02	-0.06	-0.08	-0.04	-0.05	-0.08	-0.11	-0.19	-0.3	-0.37	-0.41	-0.48	-0.5	-0.53	-0.53	-0.54	-0.54	-0.6	-0.58	-0.6	-0.6	-0.63	-0.68	-0.68	-0.73	-0.81	-0.9
33.5	0	-0.03	-0.04	-0.01	0	0.03	0.06	-0.12	-0.04	0.08	0.1	0.07	0.05	0.01	-0.02	0	-0.02	-0.01	-0.03	-0.02	-0.03	-0.01	-0.02	-0.01	-0.02	-0.03	-0.01	0.01	-0.01	-0.06
34	0	0.04	0.03	0.02	0.01	0	0.01	0.18	0.17	-0.03	-0.09	-0.16	-0.17	-0.21	-0.24	-0.26	-0.28	-0.24	-0.27	-0.25	-0.34	-0.29	-0.32	-0.32	-0.32	-0.35	-0.4	-0.44	-0.46	-0.52
34.5	0	-0.01	0.03	0.02	0.05	0.05	0.06	0.05	0.06	0.09	0.06	0.06	0.08	0.09	0.09	0.09	0.12	0.13	0.14	0.14	0.15	0.15	0.13	0.13	0.11	0.09	0.15	0.12	0.1	0.04
35	0	-0.02	-0.02	0	0.02	0.02	0.05	0.05	0.05	0.05	0.03	0.02	0.03	0	-0.03	-0.04	-0.03	-0.01	-0.03	-0.03	-0.08	-0.06	-0.06	-0.04	-0.06	-0.1	-0.13	-0.14	-0.16	-0.19
35.5	0	-0.01	-0.04	-0.06	-0.08	-0.11	-0.13	-0.12	-0.15	-0.2	-0.26	-0.35	-0.39	-0.45	-0.5	-0.51	-0.55	-0.59	-0.6	-0.61	-0.67	-0.63	-0.67	-0.69	-0.71	-0.75	-0.73	-0.8	-0.88	-0.94
36	0	-0.01	-0.06	-0.1	-0.11	-0.11	-0.14	-0.15	-0.18	-0.19	-0.26	-0.36	-0.39	-0.47	-0.54	-0.57	-0.58	-0.61	-0.62	-0.64	-0.64	-0.62	-0.63	-0.63	-0.62	-0.63	-0.59	-0.57	-0.61	-0.73
36.5	0	0	-0.06	0	-0.04	-0.05	0.03	-0.13	-0.18	0	-0.01	-0.05	-0.09	-0.11	-0.13	-0.15	-0.13	-0.12	-0.12	-0.11	-0.17	-0.12	-0.14	-0.1	-0.09	-0.1	0.04	-0.15	-0.18	-0.2
37	0	-0.01	0.06	0.02	0.08	0.07	0.03	0.18	0.11	0.09	0.17	0.15	0.18	0.2	0.22	0.22	0.25	0.23	0.24	0.24	0.27	0.26	0.26	0.23	0.22	0.2	0.11	0.25	0.26	0.18
37.5	0	0.01	0.07	0	0.09	0.02	0	-0.01	0.05	0.06	0.01	0.01	0.09	0.05	0.03	0.04	0.05	0.02	0.04	0.02	0.09	0.09	0.12	0.09	0.09	0.1	0.28	0.24	0.18	0.06
38	0	0	-0.08	-0.06	-0.08	-0.04	-0.05	-0.01	-0.04	-0.1	-0.18	-0.32	-0.42	-0.52	-0.62	-0.67	-0.71	-0.72	-0.74	-0.76	-0.79	-0.75	-0.73	-0.73	-0.71	-0.72	-0.71	-0.71	-0.77	-0.9
38.5	0	0.01	-0.02	-0.09	-0.05	-0.1	-0.09	-0.09	-0.09	-0.1	-0.16	-0.19	-0.2	-0.25	-0.33	-0.34	-0.36	-0.4	-0.39	-0.4	-0.36	-0.38	-0.38	-0.42	-0.43	-0.46	-0.31	-0.35	-0.43	-0.56
39	0	0	-0.08	-0.13	-0.12	-0.15	-0.17	-0.18	-0.17	-0.22	-0.28	-0.41	-0.45	-0.57	-0.65	-0.67	-0.7	-0.73	-0.75	-0.77	-0.77	-0.77	-0.74	-0.8	-0.82	-0.84	-0.76	-0.8	-0.89	-1.08
39.5	0	0	0.08	0.05	0.11	0.1	0.06	0.11	0.09	0.12	0.11	0.19	0.37	0.42	0.53	0.63	0.63	0.55	0.5	0.54	0.71	0.67	0.73	0.74	0.65	0.74	0.95	0.96	1	1.05
40	0	0	0.09	0.06	0.14	0.09	0.09	0.09	0.12	0.15	0.12	0.2	0.2	0.21	0.22	0.21	0.23	0.26	0.26	0.27	0.37	0.41	0.4	0.35	0.42	0.43	0.56	0.61	0.68	0.61
40.5	0	0	0.04	0.03	0.1	0.1	0.07	0.12	0.11	0.1	0.1	0.15	0.2	0.19	0.22	0.23	0.24	0.27	0.28	0.3	0.31	0.39	0.41	0.46	0.5	0.55	0.6	0.65	0.68	0.77
41	0	0	-0.05	0.02	-0.01	-0.02	0.04	0.06	0.04	0.02	0.02	0	-0.05	-0.12	-0.17	-0.18	-0.17	-0.15	-0.13	-0.1	-0.15	-0.07	-0.08	-0.01	0.08	0.07	0.09	0.11	0.12	0.17
41.5	0	0	-0.01	-0.01	-0.01	-0.02	0.02	0.02	0.02	-0.01	-0.02	-0.11	-0.15	-0.21	-0.26	-0.27	-0.28	-0.26	-0.25	-0.24	-0.27	-0.22	-0.2	-0.18	-0.13	-0.13	-0.13	-0.08	-0.09	-0.13
42	0	-0.01	-0.08	-0.07	-0.09	-0.07	-0.05	-0.05	-0.06	-0.09	-0.11	-0.23	-0.32	-0.39	-0.45	-0.48	-0.51	-0.47	-0.48	-0.45	-0.58	-0.5	-0.51	-0.47	-0.41	-0.43	-0.48	-0.5	-0.56	-0.57
42.5	0	-0.02	-0.19	-0.15	-0.22	-0.24	-0.16	-0.18	-0.21	-0.22	-0.33	-0.54	-0.63	-0.67	-0.82	-0.89	-0.92	-0.92	-0.91	-0.92	-0.99	-0.96	-0.97	-0.97	-0.92	-0.94	-1	-1	-1.13	-1.24
43	0	-0.01	-0.02	-0.06	-0.06	-0.04	-0.05	-0.03	-0.05	-0.1	-0.1	-0.16	-0.19	-0.34	-0.4	-0.43	-0.44	-0.45	-0.46	-0.45	-0.49	-0.45	-0.45	-0.44	-0.45	-0.45	-0.42	-0.41	-0.44	-0.56
43.5	0	0	-0.03	-0.05	-0.04	-0.05	-0.04	-0.02	-0.04	-0.07	-0.09	-0.15	-0.2	-0.23	-0.26	-0.3	-0.3	-0.29	-0.29	-0.3	-0.32	-0.27	-0.28	-0.27	-0.25	-0.26	-0.21	-0.22	-0.28	-0.38
44	0	0	-0.1	-0.06	-0.11	-0.1	-0.08	-0.07	-0.1	-0.1	-0.15	-0.19	-0.21	-0.28	-0.37	-0.41	-0.42	-0.4	-0.43	-0.41	-0.46	-0.45	-0.43	-0.45	-0.37	-0.42	-0.41	-0.43	-0.5	-0.57
44.5	0	0	-0.03	-0.03	-0.04	-0.05	-0.04	-0.02	-0.05	-0.06	-0.07	-0.19	-0.26	-0.32	-0.37	-0.37	-0.37	-0.37	-0.38	-0.36	-0.43	-0.38	-0.37	-0.36	-0.36	-0.36	-0.39	-0.39	-0.38	-0.51
45	0	0	-0.14	-0.09	-0.13	-0.15	-0.08	-0.08	-0.1	-0.13	-0.11	-0.28	-0.37	-0.47	-0.55	-0.6	-0.59	-0.57	-0.56	-0.57	-0.66	-0.61	-0.63	-0.6	-0.51	-0.58	-0.63	-0.63	-0.7	-0.76
45.5	0	-0.01	-0.11	-0.09	-0.14	-0.14	-0.12	-0.08	-0.14	-0.16	-0.19	-0.28	-0.29	-0.3	-0.42	-0.46	-0.46	-0.49	-0.49	-0.5	-0.55	-0.52	-0.54	-0.54	-0.5	-0.55	-0.52	-0.55	-0.62	-0.72
46	0	0.01	0.05	0	0.04	0	0	0.02	0.02	-0.01	-0.04	-0.07	-0.06	-0.07	-0.07	-0.08	-0.09	-0.11	-0.12	-0.14	-0.1	-0.08	-0.07	-0.08	-0.15	-0.11	-0.06	-0.05	-0.09	-0.17
46.5	0	0	-0.02	-0.05	-0.04	-0.05	-0.05	-0.05	-0.04	-0.07	-0.12	-0.17	-0.14	-0.19	-0.19	-0.23	-0.24	-0.25	-0.26	-0.25	-0.27	-0.24	-0.25	-0.24	-0.27	-0.25	-0.21	-0.19	-0.27	-0.33
47	0	0.01	-0.01	-0.03	-0.03	-0.01	-0.05	-0.02	-0.03	-0.11	-0.12	-0.14	-0.15	-0.16	-0.23	-0.28	-0.28	-0.28	-0.28	-0.28	-0.32	-0.3	-0.31	-0.31	-0.29	-0.32	-0.27	-0.29	-0.34	-0.42
47.5	0	0	0	-0.02	0	-0.03	-0.03	-0.02	-0.03	-0.05	-0.06	-0.07	-0.07	-0.09	-0.08	-0.06	-0.08	-0.08	-0.07	-0.07	-0.08	-0.05	-0.05	-0.06	-0.1	-0.08	-0.06	-0.05	-0.07	-0.12
48	0	0.01	0.04	0.02	0.07	0.07	0.03	0.04	0.05	0.04	0.02	0.02	0.08	0.08	0.08	0.09	0.08	0.09	0.09	0.08	0.07	0.11	0.13	0.1	0.08	0.07	0.15	0.14	0.11	0.11
48.5	0	-0.01	-0.01	-0.01	0.02	0.02	0.01	0.02	0	0.01	-0.01	0.09	0.25	0.31	0.34	0.34	0.35	0.36	0.37	0.35	0.38	0.42	0.4	0.38	0.34	0.36	0.41	0.42	0.44	0.41
49	0	-0.03	0.11	0.05	0.12	0.11	0.06	0.11	0.09	0.04	0.08	0.16	0.14	0.18	0.23	0.25	0.26	0.22	0.25	0.26	0.32	0.34	0.34	0.33	0.24	0.29	0.35	0.37	0.37	0.35
49.5	0	0.01	-0.02	-0.03	0.01	0.01	-0.02	-0.01	-0.02	-0.02	-0.02	-0.01	0.03	0.06	0.09	0.08	0.07	0.08	0.09	0.1	0.09	0.12	0.12	0.1	0.09	0.07	0.14	0.14	0.14	0.14
50	0	0.01	-0.06	-0.03	-0.04	-0.04	-0.02	-0.01	-0.04	-0.03	-0.05	-0.08	-0.14	-0.13	-0.16	-0.17	-0.17	-0.16	-0.15	-0.16	-0.25	-0.22	-0.2	-0.17	-0.16	-0.18	-0.23	-0.22	-0.21	-0.23
50.5	0	-0.02	-0.1	-0.08	-0.09	-0.09	-0.08	-0.08	-0.09	-0.1	-0.09	-0.15	-0.21	-0.28	-0.32	-0.33	-0.32	-0.33	-0.29	-0.29	-0.38	-0.32	-0.32	-0.33	-0.29	-0.35	-0.32	-0.35	-0.38	-0.43
51	0	0	-0.1	-0.07	-0.1	-0.11	-0.07	-0.06	-0.07	-0.08	-0.11	-0.23	-0.26	-0.29	-0.3	-0.32	-0.3	-0.31	-0.29	-0.29	-0.37	-0.34	-0.33	-0.32	-0.31	-0.33	-0.33	-0.34	-0.35	-0.32
51.5	0	0	-0.07	-0.07	-0.07	-0.05	-0.08	-0.07	-0.04	0.01	0.02	0.06	0.01	0.01	-0.02	0	0	-0.01	0.01	0.01	-0.04	0.02	0.01	0.04	0.06	0.05	0.06	0.06	0.11	0.11
52	0	-0.02	-0.01	-0.01	0.01	0	-0.01	0.02	-0.01	-0.03	-0.01	-0.03	-0.01	0.04	0.03	0.04	0.04	0.04	0.06	0.05	0.05	0.07	0.07	0.07	0.04	0.05	0.07	0.07	0.05	0.07
52.5	0	-0.03	0	-0.01	0	0	-0.01	0.01	0.01	-0.02	-0.01	-0.04	-0.04	-0.07	-0.06	-0.06	-0.06	-0.05	-0.02	-0.04	-0.09	-0.05	-0.04	-0.05	-0.05	-0.06	-0.07	-0.08	-0.07	-0.11
53	0	-0.02	-0.04	-0.05	-0.02	-0.03	-0.03	-0.01	-0.03	-0.04	-0.06	-0.07	-0.09	-0.1	-0.11	-0.14	-0.13	-0.13	-0.1	-0.11	-0.17	-0.1	-0.11	-0.14	-0.13	-0.14	-0.08	-0.21	-0.16	-0.15
53.5	0	-0.02	-0.06	-0.06	-0.06	-0.06	-0.05	-0.03	-0.06	-0.06	-0.06	-0.1	-0.11	-0.1	-0.12	-0.11	-0.09	-0.08	-0.08	-0.07	-0.19	-0.14	-0.14	-0.13	-0.11	-0.13	-0.18	-0.17	-0.13	-0.15

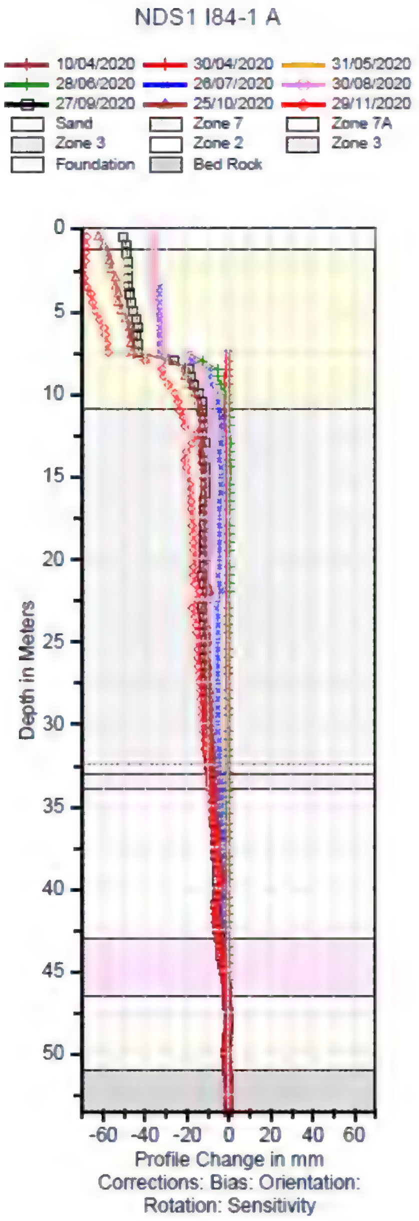
Site: NDS1
Installation: I84-1
Survey Date: 29/11/2020 12:51:05 PM
A0 Direction: 0
Description: Downstream
Survey Type: Inclinometer
Num Passes: 2
Depth Units: Meters

Checksum Analysis for Survey:
A Mean: -0.91 B Mean: 1.36
A Std.Dev: 1.56 B Std.Dev: 0.61

Depth	A0	A180	A Sum	B0	B180	B Sum
0.5	-3.07	-0.80	-3.86	-12.00	11.90	-0.10
1.0	-4.99	3.60	-1.39	-12.05	13.67	1.62
1.5	-7.82	6.22	-1.60	-12.36	13.63	1.27
2.0	-15.40	14.49	-0.91	-17.16	18.21	1.05
2.5	-22.70	21.57	-1.13	-18.35	19.55	1.20
3.0	-6.67	6.33	-0.34	-8.14	9.83	1.69
3.5	-0.11	-0.84	-0.95	-1.94	3.22	1.28
4.0	1.72	-2.63	-0.92	-0.68	2.08	1.40
4.5	0.25	-1.31	-1.06	1.51	0.68	2.19
5.0	-14.80	15.68	0.88	-21.26	22.82	1.57
5.5	-13.47	10.80	-2.68	-11.31	10.48	-0.83
6.0	-5.29	3.20	-2.10	6.79	-7.30	-0.51
6.5	-2.53	1.63	-0.90	9.32	-7.89	1.44
7.0	-8.32	7.40	-0.92	6.90	-5.47	1.44
7.5	-7.39	6.43	-0.96	10.89	-9.44	1.45
8.0	-0.32	-0.49	-0.81	10.07	-8.72	1.35
8.5	4.96	-5.74	-0.79	2.15	-0.90	1.25
9.0	4.94	-6.12	-1.18	-4.06	5.49	1.43
9.5	2.91	-3.78	-0.87	-3.35	4.73	1.38
10.0	3.60	-4.39	-0.79	-1.90	3.33	1.43
10.5	5.65	-6.64	-0.99	-4.10	5.59	1.49
11.0	3.57	-4.51	-0.94	-2.97	4.43	1.47
11.5	5.53	-4.52	1.01	-3.62	4.49	0.87
12.0	18.26	-6.15	12.11	-9.06	5.98	-3.08
12.5	11.59	-19.08	-7.49	-7.38	9.64	2.26
13.0	7.33	-12.21	-4.89	-6.59	9.23	2.64
13.5	4.53	-8.59	-4.06	-7.24	7.80	0.56
14.0	2.17	-2.95	-0.79	-6.11	7.61	1.50
14.5	1.50	-2.39	-0.89	-5.14	6.51	1.37
15.0	1.31	-2.20	-0.89	-4.83	6.28	1.45
15.5	1.77	-2.73	-0.96	-4.31	6.25	1.94
16.0	3.18	-4.02	-0.85	-4.86	5.88	1.03

16.5	3.37	-4.23	-0.86	-4.24	5.69	1.45
17.0	3.17	-4.04	-0.87	-4.21	5.75	1.54
17.5	3.30	-4.19	-0.90	-4.60	6.10	1.51
18.0	3.52	-4.34	-0.82	-4.69	6.11	1.42
18.5	3.08	-3.92	-0.85	-3.66	5.53	1.87
19.0	3.64	-4.47	-0.84	-6.16	7.31	1.15
19.5	3.63	-4.51	-0.89	-4.56	6.05	1.50
20.0	4.56	-5.40	-0.84	-4.01	5.35	1.34
20.5	4.40	-5.25	-0.85	-5.21	6.62	1.41
21.0	2.64	-3.49	-0.85	-4.38	5.82	1.45
21.5	1.99	-2.69	-0.70	-3.80	5.60	1.81
22.0	5.70	-6.67	-0.97	-5.37	6.38	1.01
22.5	5.68	-6.49	-0.82	-5.00	6.48	1.49
23.0	1.62	-2.41	-0.80	-4.88	6.35	1.47
23.5	1.13	-2.10	-0.97	-2.71	4.17	1.46
24.0	1.73	-2.48	-0.76	-4.86	6.38	1.52
24.5	0.28	-1.14	-0.87	-5.10	6.93	1.83
25.0	0.99	-1.93	-0.94	-8.35	9.41	1.07
25.5	0.85	-1.58	-0.74	-7.93	9.39	1.46
26.0	0.66	-1.50	-0.84	-8.22	9.69	1.48
26.5	1.62	-2.47	-0.85	-7.40	8.81	1.42
27.0	2.85	-3.87	-1.03	-6.06	7.54	1.48
27.5	2.92	-3.83	-0.91	-4.70	6.69	1.99
28.0	3.78	-4.51	-0.73	-6.52	7.38	0.86
28.5	4.22	-5.37	-1.15	-3.71	5.29	1.58
29.0	5.10	-5.80	-0.71	-5.03	6.43	1.41
29.5	4.76	-5.77	-1.02	-3.71	5.17	1.46
30.0	2.78	-3.54	-0.76	-2.09	3.58	1.50
30.5	2.81	-3.75	-0.95	-2.09	4.15	2.06
31.0	2.21	-2.91	-0.70	-3.05	3.91	0.86
31.5	1.00	-2.07	-1.07	-1.61	3.14	1.53
32.0	0.28	-1.10	-0.82	-3.54	5.02	1.48
32.5	0.58	-1.43	-0.85	-1.43	2.86	1.43
33.0	-2.33	1.50	-0.83	-0.48	1.98	1.50
33.5	-1.90	0.94	-0.96	-1.77	3.80	2.03
34.0	-3.57	2.78	-0.79	0.00	0.94	0.94
34.5	-3.14	2.33	-0.81	-0.89	2.41	1.52
35.0	-3.63	2.75	-0.88	-1.97	3.46	1.50
35.5	-4.54	3.74	-0.81	-2.84	4.37	1.53
36.0	-4.04	3.11	-0.93	-4.19	5.69	1.50
36.5	-2.57	1.71	-0.86	-7.65	9.56	1.91
37.0	-2.54	1.55	-0.99	-9.15	10.18	1.03
37.5	-0.44	-0.47	-0.91	-9.37	10.84	1.48
38.0	-0.30	-0.55	-0.85	-11.00	12.51	1.51
38.5	0.44	-1.54	-1.10	-13.07	14.45	1.38
39.0	2.73	-3.41	-0.68	-15.15	16.84	1.69
39.5	6.46	-7.22	-0.76	-15.27	16.51	1.24

40.0	9.14	-10.04	-0.90	-12.87	14.42	1.56
40.5	10.43	-11.25	-0.82	-9.23	10.68	1.46
41.0	8.75	-9.60	-0.86	-5.25	6.72	1.47
41.5	6.92	-7.78	-0.86	-3.05	4.44	1.39
42.0	4.87	-5.75	-0.88	-2.75	4.19	1.44
42.5	1.83	-2.60	-0.77	-3.23	4.62	1.39
43.0	1.23	-2.10	-0.87	-3.46	4.86	1.40
43.5	1.35	-2.33	-0.98	-3.14	4.55	1.41
44.0	1.07	-1.95	-0.88	-3.24	4.66	1.43
44.5	0.29	-0.99	-0.70	-4.08	5.59	1.52
45.0	-2.35	1.50	-0.85	-3.15	4.57	1.42
45.5	-4.64	3.75	-0.89	-2.99	4.37	1.38
46.0	-3.54	2.62	-0.92	-5.46	6.93	1.47
46.5	-2.60	1.91	-0.70	-5.71	7.21	1.50
47.0	-2.19	1.31	-0.88	-6.41	7.81	1.40
47.5	-1.35	0.51	-0.84	-7.41	8.84	1.43
48.0	-0.56	-0.36	-0.92	-8.96	10.38	1.42
48.5	1.38	-2.22	-0.84	-9.77	11.11	1.35
49.0	3.43	-4.39	-0.97	-10.45	11.97	1.52
49.5	4.74	-5.66	-0.92	-11.27	12.75	1.48
50.0	4.69	-5.46	-0.77	-13.19	14.65	1.46
50.5	2.64	-3.56	-0.92	-14.51	15.98	1.48
51.0	0.74	-1.68	-0.94	-14.16	15.67	1.51
51.5	0.27	-0.97	-0.71	-13.79	15.10	1.31
52.0	-0.37	-0.49	-0.86	-7.83	9.29	1.47
52.5	-0.47	-0.39	-0.86	-6.73	8.28	1.55
53.0	-0.79	-0.28	-1.07	-7.56	9.16	1.61
53.5	-1.27	0.47	-0.80	-5.85	7.34	1.49



NDS1 I84-1 A
10/04/2020
30/04/2020
31/05/2020
28/06/2020
26/07/2020
30/08/2020
27/09/2020
25/10/2020
29/11/2020
Sand
Zone 7
Zone 7A
Zone 3
Zone 2
Zone 3
Foundation
Bed Rock
Depth in Meters
0
5
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30
35
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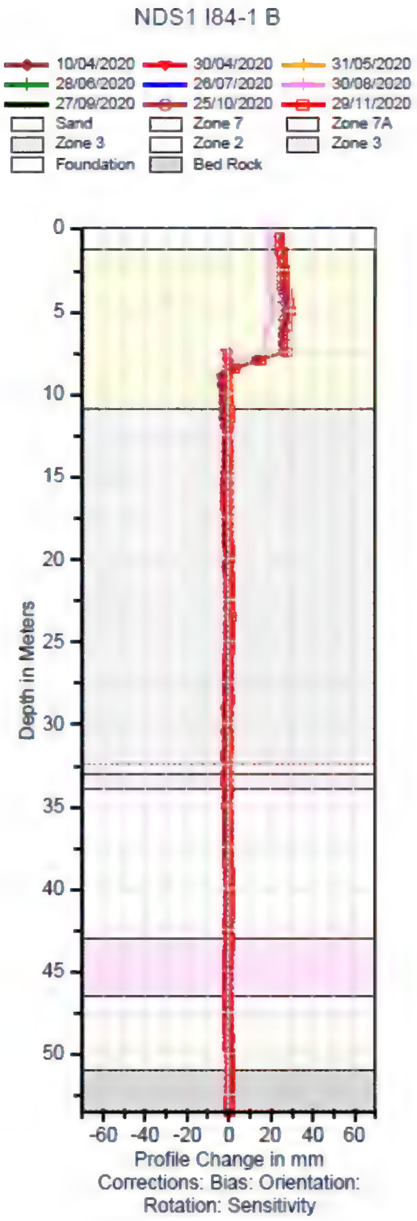
45
50
-60
-40
-20
0
20
40
60
Profile Change in mm
Corrections: Bias: Orientation:
Rotation: Sensitivity



NDS1 I84-1 B
10/04/2020
30/04/2020
31/05/2020
28/06/2020
26/07/2020
30/08/2020
27/09/2020
25/10/2020
29/11/2020
Sand
Zone 7
Zone 7A
Zone 3
Zone 2
Zone 3
Foundation
Bed Rock
Depth in Meters
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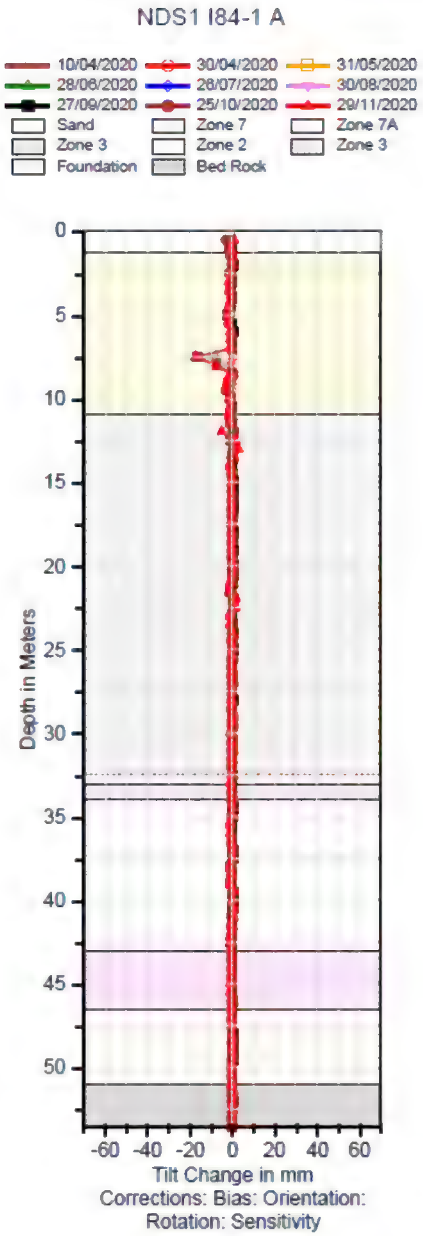
Profile Change in mm
Corrections: Bias: Orientation:
Rotation: Sensitivity



NDS1 I84-1 A
10/04/2020
30/04/2020
31/05/2020
28/06/2020
26/07/2020
30/08/2020
27/09/2020
25/10/2020
29/11/2020
Sand
Zone 7
Zone 7A
Zone 3
Zone 2
Zone 3
Foundation
Bed Rock
Depth in Meters
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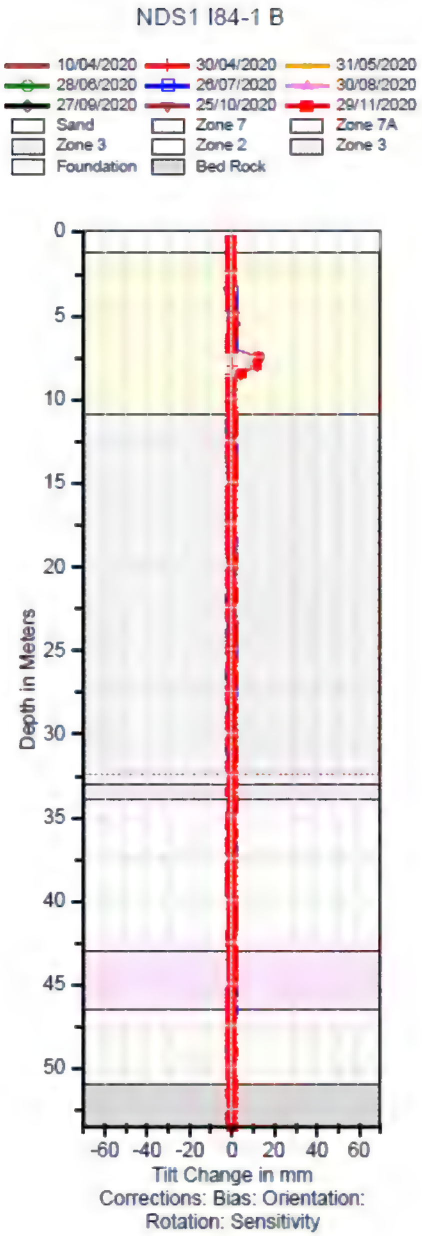
Tilt Change in mm
Corrections: Bias: Orientation:
Rotation: Sensitivity



NDS1 I84-1 B
10/04/2020
30/04/2020
31/05/2020
28/06/2020
26/07/2020
30/08/2020
27/09/2020
25/10/2020
29/11/2020
Sand
Zone 7
Zone 7A
Zone 3
Zone 2
Zone 3
Foundation
Bed Rock
Depth in Meters
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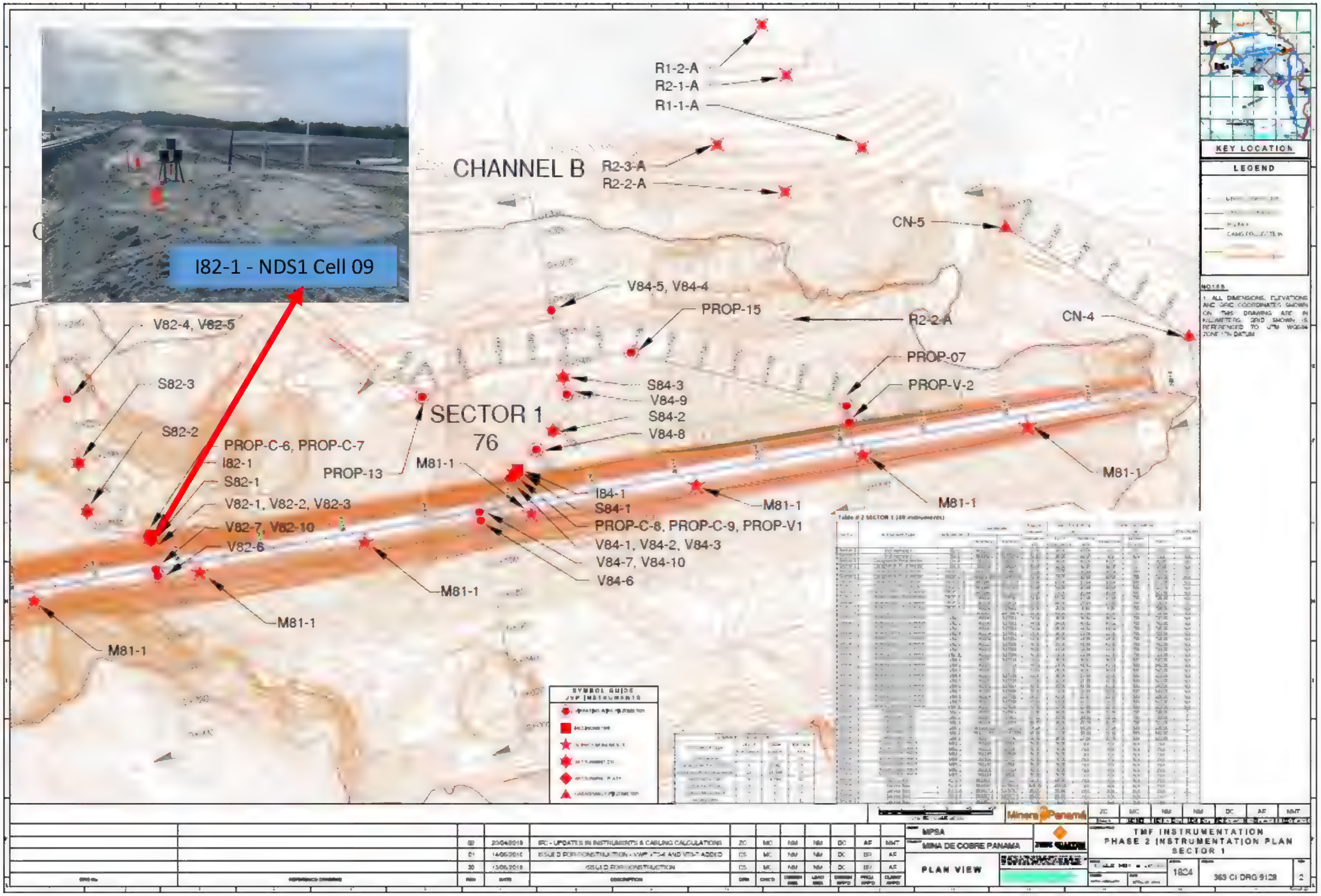
60
Tilt Change in mm
Corrections: Bias: Orientation:
Rotation: Sensitivity

I82-1


I82-1 - NDS1 Cell 09
CHANNEL B
SECTOR 1
76
R1-2-A
R2-1-A
R1-1-A
R2-3-A
R2-2-A
CN-5
CN-4
V84-5, V84-4
PROP-15
R2-2-A
PROP-07
PROP-V-2
V82-4, V82-5
S82-3
S82-2
PROP-C-6, PROP-C-7
I82-1
S82-1
PROP-13
M81-1
V82-1, V82-2, V82-3
V82-7, V82-10
V82-6
S84-3
V84-9
S84-2
V84-8
I84-1
S84-1
PROP-C-8, PROP-C-9, PROP-V1
V84-1, V84-2, V84-3
V84-7, V84-10
V84-6
M81-1
M81-1
M81-1
M81-1
M81-1
M81-1
KEY LOCATION
LEGEND
SYMBOL GUIDE
MPSA
MINA DE COBRE PANAMA
TMF INSTRUMENTATION
PHASE 2 INSTRUMENTATION PLAN
SECTOR 1
PLAN VIEW
363 CI DRG 9128

Depth	08/04/2020	09/04/2020	30/04/2020	08/05/2020	31/05/2020	07/06/2020	14/06/2020	28/06/2020	05/07/2020	05/07/2020	06/07/2020	12/07/2020	17/07/2020	26/07/2020	02/08/2020	10/08/2020	16/08/2020	23/08/2020	30/08/2020	06/09/2020	13/09/2020	20/09/2020	27/09/2020	04/10/2020	11/10/2020	19/10/2020	25/10/2020	01/11/2020	08/11/2020	16/11/2020	22/11/2020	29/11/2020
0.5																											0	-3.58	-4.71	-5.33	-6.25	-6.35
1																											0	-2.51	-2.72	-3.72	-4.29	-4.84
1.5												0	-1.01	-0.8	-0.9	-0.7	-0.56	-0.99	-0.62	-1.03	-1.31	-0.88	-1.33	-1.56	-0.81	-1.8	-0.05	2.01	1.89	2.39	2.64	2.77
2												0	-0.45	-0.54	-0.65	-0.11	-0.23	-0.17	-0.19	-0.38	-0.33	-0.11	-0.55	-0.75	-0.7	-1.31	-2.69	-0.57	-0.65	-0.22	0.17	0.46
2.5												0	-0.13	-0.23	-0.24	0.02	0.08	0.09	0.01	0.03	0.04	0.04	-0.75	-0.78	-0.82	-1.24	-4.53	-3.65	-3.74	-3.79	-3.89	-3.9
3												0	-0.01	-0.05	0.02	0.19	0.21	0.26	0.23	0.18	0.18	0.18	-0.4	-0.44	-0.49	-0.83	-2.34	-1.1	-1.31	-1.26	-1.18	-0.96
3.5												0	0.02	-0.16	-0.17	-0.1	-0.11	-0.15	-0.22	-0.2	-0.21	-0.24	-0.64	-0.74	-0.74	-0.9	5.23	0.2	-0.03	-0.01	0.02	0.19
4												0	-0.06	-0.38	-0.47	-0.45	-0.47	-0.58	-0.59	-0.6	-0.66	-0.66	-0.96	-1.08	-1.07	-1.11	2.92	-0.62	-0.78	-0.77	-0.78	-0.7
4.5									0	-4.24	0.35	-1.8	-1.78	-2	-2.09	-2.14	-2.18	-2.36	-2.41	-2.5	-2.46	-2.49	-2.73	-2.8	-2.78	-2.79	-2.76	-2.95	-3.07	-3.07	-3.11	-3.23
5									0	-17.47	-0.21	-6.25	-6.17	-6.64	-6.73	-7.01	-7.12	-7.46	-7.51	-7.54	-7.57	-7.62	-7.7	-7.83	-7.76	-7.6	-7.18	-7.36	-7.38	-7.34	-7.48	-8.01
5.5									0	-17.58	0.03	1.17	1.25	1.44	1.49	1.62	1.69	1.76	1.8	1.8	1.82	1.8	1.74	1.74	1.73	1.85	2.41	2.4	2.22	2.39	2.4	2.55
6									0	-14.65	0.11	1.96	2.08	2.35	2.38	2.64	2.68	2.81	2.82	2.83	2.84	2.87	2.88	2.9	2.89	3.01	3.42	3.46	3.36	3.43	3.48	3.76
6.5	0	1.46	3.03	3.32	3.83	4.68	4.69	4.66	6.73	-3.26	6.77	7.22	7.24	7.36	7.42	7.43	7.45	7.5	7.49	7.56	7.47	7.5	7.57	7.55	7.53	7.62	7.62	7.51	7.34	7.25	7.26	7.5
7	0	1.01	3.12	3.72	3.74	4.16	4.31	4.16	-4.61	-8.91	-4.6	-4.46	-4.37	-4.3	-4.26	-4.29	-4.25	-4.27	-4.28	-4.29	-4.31	-4.3	-4.32	-4.32	-4.35	-4.33	-4.43	-4.62	-4.74	-4.87	-4.89	-4.89
7.5	0	1.18	2.85	3.21	3.71	3.77	3.91	3.9	-0.06	-6.19	-0.02	0.09	0.19	0.26	0.31	0.32	0.37	0.35	0.36	0.39	0.35	0.34	0.32	0.25	0.27	0.26	0.14	-0.07	-0.18	-0.31	-0.32	-0.36
8	0	-0.01	0.28	0.74	0.84	0.89	0.85	0.82	1.58	-5.24	1.6	1.19	1.17	1.19	1.21	1.15	1.15	1.17	1.15	1.11	1.08	1.12	1.11	1.12	1.09	1.11	0.9	0.65	0.48	0.28	0.21	0.2
8.5	0	0.03	0.19	0.24	0.31	0.3	0.31	0.25	0.73	-2.53	0.78	0.2	0.12	0.06	0.07	0.04	-0.04	-0.02	-0.07	-0.02	-0.15	-0.15	-0.05	-0.02	-0.08	-0.01	-0.27	-0.47	-0.66	2.76	-0.97	-0.93
9	0	0.05	-0.22	-0.36	-0.51	-0.49	-0.5	-0.63	-1.33	-4.3	-1.35	-1.54	-1.59	-1.64	-1.66	-1.69	-1.66	-1.79	-1.76	-1.72	-1.71	-1.74	-1.81	-1.93	-1.88	-1.98	-1.5	-1.92	-1.92	-1.94	-1.99	-2.46
9.5	0	-0.04	0.14	0.19	0.24	0.33	0.32	0.33	1.03	-12.21	1.04	1.4	1.6	1.8	1.82	1.94	2.08	2.07	2.14	2.2	2.23	2.26	2.19	2.09	2.11	1.98	2.2	2.01	1.95	1.94	1.96	1.86
10	0	0.07	0.05	0.09	0.1	0.09	0.13	0.14	0.59	-18.17	0.59	0.88	1.04	1.17	1.19	1.29	1.4	1.38	1.43	1.49	1.51	1.51	1.45	1.34	1.4	1.3	1.48	1.32	1.36	1.33	1.33	1.16
10.5	0	0.02	0.06	0.09	0.14	0.23	0.25	0.28	0.6	-24.94	0.63	0.74	0.83	0.98	0.99	1.08	1.14	1.17	1.21	1.23	1.22	1.23	1.19	1.16	1.18	1.15	1.07	0.98	0.89	0.82	0.86	0.83
11	0	0.03	0.08	0.1	0.21	0.22	0.3	0.34	0.03	-16	0.08	-0.25	-0.31	-0.32	-0.29	-0.34	-0.34	-0.26	-0.33	-0.4	-0.46	-0.49	-0.5	-0.45	-0.57	-0.48	-1.07	-1.27	-1.6	-1.92	-2.12	-1.71
11.5	0	0.02	0.02	0.01	0.02	0.02	0.06	0.11	-0.37	-11.07	-0.45	-0.82	-0.81	-0.82	-0.8	-0.84	-0.86	-0.85	-0.87	-0.92	-0.94	-1	-1	-0.96	-1.01	-1.02	-1.36	-1.43	-1.49	-1.76	-1.86	-1.74
12	0	0.03	0.07	0.13	0.24	0.32	0.36	0.4	0.49	-7.53	0.51	0.56	0.66	0.78	0.81	0.91	0.99	1.01	1	1.03	1.04	1.05	0.94	0.9	0.89	0.87	0.76	0.58	0.51	0.43	0.45	0.49
12.5	0	0.03	0.09	0.13	0.29	0.37	0.42	0.49	0.71	-7.77	0.74	0.97	1.03	1.16	1.22	1.3	1.39	1.43	1.47	1.49	1.49	1.5	1.44	1.42	1.48	1.49	1.42	1.45	1.51	1.56	1.69	1.94
13	0	0.01	-0.07	-0.09	-0.08	-0.05	-0.01	0.05	0	-7.68	0.07	0.01	0.07	0.22	0.24	0.35	0.46	0.53	0.53	0.59	0.62	0.65	0.58	0.63	0.63	0.65	0.52	0.53	0.52	0.44	0.52	0.8
13.5	0	0.03	0.04	0.02	0.11	0.14	0.17	0.22	-0.15	-6.28	-0.17	-0.25	-0.02	0.26	0.33	0.44	0.49	0.52	0.54	0.55	0.54	0.54	0.43	0.39	0.31	0.24	0.03	-0.28	-0.57	-0.85	-0.97	-1.04
14	0	0.02	0.03	0.04	0.13	0.19	0.22	0.24	0.13	-6.67	0.16	-0.1	-0.28	-0.49	-0.6	-0.66	-0.64	-0.67	-0.73	-0.8	-0.84	-0.86	-1.03	-1.14	-1.25	-1.39	-1.63	-2.07	-2.34	-2.61	-2.8	-3.11
14.5	0	0.02	0.02	0.05	0.1	0.17	0.35	0.22	0.2	-6.44	0.18	0.16	0.22	0.27	0.26	0.34	0.37	0.38	0.38	0.36	0.37	0.38	0.27	0.22	0.2	0.17	0.03	-0.13	-0.19	-0.3	-0.31	-0.35
15	0	0.02	0.04	0.05	0.14	0.21	0.24	0.3	0.32	-6.05	0.27	0.28	0.32	0.4	0.41	0.48	0.52	0.54	0.56	0.54	0.55	0.56	0.48	0.44	0.41	0.39	0.23	0.11	0.02	-0.09	-0.1	-0.06
15.5	0	0.03	0.05	0.07	0.14	0.19	0.2	0.22	0.23	-5.75	0.25	0.21	0.28	0.34	0.37	0.43	0.48	0.51	0.52	0.53	0.53	0.53	0.45	0.38	0.38	0.33	0.23	0.08	-0.02	-0.13	-0.14	-0.13
16	0	0.02	0.05	0.07	0.18	0.24	0.3	0.35	0.29	-5.39	0.26	0.22	0.24	0.3	0.32	0.35	0.39	0.42	0.42	0.39	0.4	0.37	0.28	0.27	0.21	0.17	-0.05	-0.2	-0.37	-0.53	-0.61	-0.62
16.5	0	0.03	0.01	0.01	0.02	0.06	0.04	0.03	-0.83	-5.95	-1.03	-0.86	-0.78	-0.58	-0.57	-0.49	-0.44	-0.44	-0.41	-0.4	-0.4	-0.41	-0.55	-0.65	-0.65	-0.76	-0.77	-1.03	-1.13	-1.31	-1.37	-1.51
17	0	0.01	0.04	0.11	0.15	0.26	0.29	0.33	1.49	-7.41	1.68	1.75	1.8	1.86	1.85	1.95	2.09	2.12	2.14	2.2	2.2	2.22	2.27	2.31	2.37	2.36	2.44	2.53	2.66	2.84	3.13	3.43
17.5	0	0.01	-0.02	0.04	-0.01	0.06	0.01	0.01	0.23	-7.44	0.32	0.24	0.19	0.17	0.12	0.15	0.22	0.18	0.18	0.17	0.15	0.17	0.12	0.23	0.23	0.23	0.06	0.1	0.07	0.01	0.02	0.48
18	0	0	-0.02	-0.05	-0.02	-0.03	-0.04	-0.03	-0.48	-6.76	-0.54	-0.73	-0.76	-0.8	-0.83	-0.88	-0.93	-0.98	-1.01	-1.04	-1.08	-1.12	-1.22	-1.27	-1.4	-1.45	-1.66	-1.88	-2.08	-2.27	-2.46	-2.76
18.5	0	0.03	0.23	0.22	0.65	0.81	1.04	1.2	1.17	-5.09	1.19	1.28	1.49	1.71	1.86	2	2.02	2.13	2.2	2.26	2.28	2.28	2.32	2.13	2.12	2.1	2.21	2.21	2.25	2.34	2.34	1.84
19	0	0.38	1.31	1.59	2.92	3.72	4.11	4.42	5.04	-3.49	5.2	5.62	6.66	7.08	7.6	8.25	8.65	8.88	9.05	9.23	9.32	9.49	9.72	9.7	9.84	10.03	10.22	10.4	10.53	10.71	10.82	10.81
19.5	0	0.68	1.9	2.26	3.6	4.49	4.79	5.15	5.64	-3.1	5.8	6.1	7.25	7.64	8.14	8.57	8.92	9.15	9.27	9.34	9.43	9.77	9.77	9.94	9.98	10.8	10.05	10.74	10.2	9.93	9.83	10.52
20	0	0.52	0.82	0.82	0.38	0.13	-0.39	-0.47	-0.92	-5.66	-0.95	-1.4	-2.28	-2.26	-3.1	-3.12	-3.85	-3.56	-3.72	-4.32	-4.4	-4.59	-4.7	-4.14	-4.38	-4.39	-5.28	-5.16	-5.57	-5.67	-5.85	-5.91
20.5	0	0.02	-0.57	-0.82	-2.56	-3.79	-4.39	-4.77	-5.97	-6.95	-6.32	-7.32	-9.07	-9.85	-10.81	-11.98	-12.97	-13.45	-13.77	-14.05	-14.25	-14.59	-14.9	-14.95	-15.3	-15.52	-16.01	-16.09	-16.25	-16.48	-16.68	-16.67
21	0	-0.48	-1.38	-1.65	-3.48	-5.25	-6.32	-7.08	-8.5	-7.18	-8.89	-10.26	-11.59	-12.53	-13.45	-14.64	-15.78	-16.36	-16.64	-16.83	-17	-17.14	-17.38	-17.6	-17.66	-17.95	-18.05	-18.33	-18.36	-18.43	-18.43	-18.76
21.5	0	-0.66	-1.43	-1.57	-2.33	-3.61	-4.47	-4.98	-5.48	-5.58	-5.65	-5.96	-5.94	-6	-5.92	-5.86	-5.83	-5.82	-5.73	-5.63	-5.55	-5.41	-5.32	-5.36	-5.15	-5.24	-4.75	-4.67	-4.17	-4.01	-3.7	-3.61
22	0	-0.41	-0.75	-0.76	-0.13	-0.13	-0.1	0.12	0.76	-3.33	0.9	2.06	3.16	4.12	5.01	6.25	7.54	8.21	8.55	8.83	9.07	9.29	9.58	9.71	9.94	10.1	10.67	11.07	11.38	11.61	11.88	12.2
22.5	0	-0.02	-0.01	0.06	1.37	2.46	3.23	3.84	4.97	-2.64	5.2	6.28	6.92	7.58	8.27	9.25	10.21	10.74	11.05	11.19	11.33	11.46	11.51	11.58	11.58	11.7	11.68	11.76	11.67	11.65	11.62	11.63
23	0	0.1	0.2	0.24	0.8	2.22	3.04	3.47	3.95	-4.36	4.17	4.37	4.39	4.55	4.38	4.12	3.86	3.75	3.69	3.66	3.62	3.62	3.59	3.59	3.61	3.54	3.18	3.06	2.88	2.88	2.78	2.51
23.5	0	0.05	0.14	0.22	0.32	1.05	1.43	1.61	1.87	-5.42	1.98	2.31	2.99	3.99	4.04	4.02	4.02	4.15	4.25	4.39	4.46	4.55	4.96	5.23	5.56	5.66	5.75	6.01	6.29	6.6	6.9	7.22
24	0	0.03	0.05	0.11	0.16	0.16	0.2	0.26	0.36	-6.42	0.35	0.45	0.39	0.07	0.04	0.05	0.02	-0.04	-0.08	-0.13	-0.23	-0.3	-0.43	-0.41	-0.57	-0.47	-0.82	-0.68	-1.01	-1.11	-1.23	-0.95
24.5	0	0.01	0.01	-0.01	-0.01	-0.15	-0.22	-0.28	-0.46	-6.69	-0.53	-1.23	-2.81	-5.95	-6.62	-7.1	-7.82	-8.59	-9.11	-9.66	-10.1	-10.41	-11.76	-12.41	-13.39	-13.74	-14.47	-15.12	-15.85	-16.44	-16.95	-17.58
25	0	-0.02	-0.11	-0.14	-0.24	-0.36	-0.42	-0.51	-0.76	-6.38	-0.82	-1.57	-3.03	-5.44	-5.91	-6.31	-6.82	-7.41	-7.8	-8.12	-8.38	-8.54	-9.53	-10.2	-11.1	-11.75	-11.67	-12.14	-11.94	-12.13	-12.36	-13.44
25.5	0	0.01	-0.04	-0.07	-0.09	-0.1	-0.16	-0.13	-0.05	-5.79	0	0.52	2.07	5.62	6.37	6.92	7.69	8.43	8.98	9.59	10.08	10.48	11.83	12.05	12.2	11.92	13.08	13.68	14.88	15.3	15.3	13.99
26	0	0.07	0.3	0.46	0.85	1.04	1.17	1.45	2.08	-5.96	2.3	4.78	11.35	21.33	22.7	23.94	25.39	26.82	27.84	28.83	29.64	30.36	32.23	33.23	34.26	34.87	35.77	37.1	38.53	39.27	39.94	41.07
26.5	0	0.08	0.27	0.44	0.81	0.97	1.15	1.41	2.03	-5.75	2.2	4.18	9.62	16.59	16.79	17	17.11	17.39	17.55	17.71	17.61	17.67	17.66	18.09	18.61	19.23	18.3	18.35	17.26	17.29	17.47	19.4
27	0	0	-0.07	-0.08	-0.12	-0.13	-0.14	-0.14	-0.11	-5.82	-0.11	-0.38	-0.82	-2.67	-3.68	-4.74	-6	-7.01	-7.87	-8.73	-9.48	-9.93	-11.42	-11.84	-12.15	-12.12	-13.48	-14.45	-16.21	-17.3	-18.08	-18.86
27.5	0	-0.03	-0.26	-0.41	-0.75	-0.92	-1.04	-1.24	-1.82	-5.66	-1.94	-4	-9.41	-16.86	-17.23	-17.67	-18.16	-18.7	-19.12	-19.45	-19.82	-20.09	-20.61	-20.87	-20.99	-21.18	-21.33	-21.64	-21.95	-22.28	-22.61	-23.49
28	0	0	-0.08	-0.13	-0.28	-0.36	-0.42	-0.5	-1.08	-4.84	-1.24	-2.99	-7.81	-13.64	-13.65	-13.47	-13.29	-13.14	-12.88	-12.75	-12.5	-12.34	-12.05	-12.03	-11.85	-11.97	-11.6	-11.47	-10.83	-10.38	-9.96	-9.44
28.5	0	0.03	0.09	0.12	0.2	0.22	0.2	0.27	0.18	-3.99	0.09	-0.09	-0.87	-1.76	-1.81	-1.8	-1.68	-1.56	-1.4	-1.3	-1.22	-1.16	-0.99	-0.99	-0.88	-0.92	-0.44	-0.63	-0.6	-0.47	0.36	0.55
29	0	0.04	0.07	0.07	0.13	0.16	0.08	0.08	0.2	-4.56	0.22	0.31	0.42	0.59	0.63	0.64	0.65	0.58	0.52	0.51	0.49	0.49	0.47	0.45	0.45	0.42	0.22	0.42	0.49	0.38	0.36	0.19
29.5	0	0	-0.01	0.04	0.07	0.06	0.19	0.22	0.15	-3.96	0.14	0.05	-0.01	-0.01	-0.03	-0.03	-0.08	-0.06	-0.05	-0.06	-0.09	-0.09	-0.09	-0.01	-0.09	0.02	-0.14	-0.05	-0.13	-0.15	-0.2	-0.15
30	0	0.01	-0.02	0	0.01	0.01	0.08	0.07	0.06	-2.21	0.1	-0.1	-0.12	-0.18	-0.2	-0.23	-0.25	-0.23	-0.25	-0.24	-0.27	-0.27	-0.27	-0.26	-0.26	-0.22	-0.33	-0.29	-0.35	-0.41	-0.43	-0.4
30.5	0	0.02	-0.01	-0.01	-0.04	-0.03	-0.1	-0.08	-0.06	-1.34	-0.07	-0.06	-0.09	-0.12	-0.13	-0.15	-0.15	-0.17	-0.18	-0.19	-0.21	-0.2	-0.21	-0.23	-0.22	-0.25	-0.26	-0.27	-0.26	-0.25	-0.29	-0.37
31	0	0.03	0.04	0.06	0.04	0	-0.09	-0.09	-0.06	-2.71	-0.08	0.04	0	-0.05	-0.03	-0.05	-0.05	-0.08	-0.08	-0.09	-0.07	-0.05	-0.03	-0.09	-0.02	-0.12	-0.02	-0.03	0.1	0.15	0.17	0.04
31.5	0	0.06	0.13	0.16	0.22	0.22	0.11	0.16	0.21	-4.42	0.2	0.43	0.49	0.6	0.66	0.69	0.73	0.74	0.75	0.77	0.79	0.84	0.89	0.84	0.92	0.8	0.93	0.98	1.05	1.25	1.3	1.25
32	0	0.03	0.1	0.1	0.14	0.16	0.05	0.1	0.16	-6.84	0.19	0.34	0.37	0.39	0.46	0.47	0.45	0.47	0.48	0.5	0.52	0.54	0.56	0.56	0.62	0.6	0.7	0.67	0.83	0.86	0.9	0.82
32.5	0	0.01	0.01	0.03	0.01	-0.01	-0.02	-0.01	-0.05	-8.01	-0.06	-0.08	-0.15	-0.23	-0.28	-0.31	-0.38	-0.4	-0.41	-0.42	-0.45	-0.42	-0.44	-0.43	-0.43	-0.43	-0.49	-0.43	-0.42	-0.43	-0.45	-0.53
33	0	0.03	0.04	0.03	0.03	0.02	-0.05	-0.03	-0.03	-8.63	-0.01	0	-0.03	-0.09	-0.11	-0.13	-0.14	-0.16	-0.18	-0.19	-0.2	-0.24	-0.21	-0.21	-0.21	-0.23	-0.25	-0.24	-0.18	-0.19	-0.2	-0.29
33.5	0	0.02	-0.05	-0.03	-0.06	-0.09	-0.09	-0.09	-0.13	-9.16	-0.14	-0.2	-0.25	-0.35	-0.4	-0.45	-0.53	-0.57	-0.61	-0.63	-0.65	-0.64	-0.66	-0.69	-0.68	-0.7	-0.72	-0.72	-0.69	-0.7	-0.73	-0.88
34	0	0.01	-0.02	0	0.01	0	0.01	0.02	0.02	-8.86	0.01	-0.07	-0.13	-0.21	-0.26	-0.29	-0.34	-0.34	-0.34	-0.36	-0.39	-0.39	-0.43	-0.38	-0.43	-0.36	-0.49	-0.44	-0.5	-0.53	-0.58	-0.62
34.5	0	0.02	0.01	0.02	0.02	0	0.06	0.03	0.04	-7.4	0.02	-0.1	-0.14	-0.2	-0.26	-0.26	-0.31	-0.32	-0.31	-0.34	-0.39	-0.43	-0.44	-0.34	-0.43	-0.33	-0.48	-0.43	-0.48	-0.52	-0.56	-0.6
35	0	0.02	-0.02	-0.02	-0.03	-0.04	0.01	-0.02	-0.03	-6.08	-0.03	-0.2	-0.24	-0.32	-0.4	-0.45	-0.53	-0.56	-0.57	-0.59	-0.57	-0.58	-0.52	-0.61	-0.54	-0.59	-0.61	-0.55	-0.59	-0.66	-0.73	-0.79
35.5	0	0.02	-0.02	-0.02	-0.04	-0.04	-0.05	-0.05	-0.05	-5.81	-0.07	-0.03	-0.07	-0.13	-0.17	-0.17	-0.19	-0.21	-0.23	-0.22	-0.24	-0.21	-0.23	-0.25	-0.24	-0.28	-0.3	-0.28	-0.28	-0.28	-0.24	-0.35
36	0	0.02	0.05	0.04	0.06	0.06	-0.03	0.02	-0.02	-6.87	0.02	0.09	0.06	0.05	0.06	0.05	0.03	0.02	0	0	0	0.02	0.02	0.01	0.01	-0.03	-0.03	-0.02	-0.01	0.02	0.02	-0.05
36.5	0	-0.01	-0.06	-0.05	-0.11	-0.15	-0.15	-0.17	-0.18	-7.16	-0.17	-0.29	-0.35	-0.49	-0.54	-0.62	-0.7	-0.75	-0.78	-0.82	-0.82	-0.83	-0.87	-0.87	-0.87	-0.88	-0.94	-0.92	-0.94	-0.93	-0.96	-1.08
37	0	0	-0.04	-0.04	-0.04	-0.05	-0.01	-0.04	-0.04	-6.82	-0.02	-0.1	-0.18	-0.23	-0.27	-0.29	-0.34	-0.34	-0.34	-0.33	-0.39	-0.4	-0.39	-0.38	-0.38	-0.33	-0.4	-0.38	-0.38	-0.4	-0.44	-0.45
37.5	0	0.01	-0.02	0	0	0	0.02	0.01	0.03	-5.55	0.01	-0.07	-0.08	-0.18	-0.27	-0.28	-0.42	-0.43	-0.38	-0.44	-0.5	-0.48	-0.5	-0.5	-0.49	-0.43	-0.51	-0.48	-0.54	-0.53	-0.51	-0.6
38	0	0.01	-0.05	-0.03	-0.06	-0.06	-0.03	-0.07	-0.07	-4.99	-0.06	-0.18	-0.3	-0.35	-0.4	-0.45	-0.48	-0.47	-0.54	-0.49	-0.46	-0.51	-0.49	-0.42	-0.48	-0.47	-0.51	-0.48	-0.51	-0.52	-0.57	-0.58
38.5	0	0	-0.05	-0.04	-0.06	-0.07	0.02	0	-0.02	-3.86	-0.02	-0.11	-0.16	-0.21	-0.24	-0.3	-0.33	-0.33	-0.37	-0.35	-0.38	-0.37	-0.4	-0.38	-0.4	-0.34	-0.44	-0.4	-0.44	-0.48	-0.52	-0.56
39	0	0	-0.04	-0.04	-0.04	-0.05	-0.01	-0.03	-0.02	-2.77	-0.01	-0.16	-0.17	-0.23	-0.24	-0.27	-0.32	-0.33	-0.33	-0.32	-0.36	-0.36	-0.38	-0.35	-0.36	-0.31	-0.39	-0.35	-0.37	-0.37	-0.38	-0.43
39.5	0	0.02	-0.03	0	-0.01	-0.03	0.03	0.02	0.02	-1.95	0.04	-0.07	-0.08	-0.19	-0.26	-0.29	-0.33	-0.33	-0.36	-0.35	-0.36	-0.36	-0.35	-0.34	-0.56	-0.31	-0.36	-0.33	-0.36	-0.36	-0.39	-0.42
40	0	0.01	0.01	0.04	0.04	0.04	0.02	0.07	0.05	-1.48	0.04	0.1	0.09	0.08	0.06	0.06	0.07	0.07	0.07	0.08	0.09	0.12	0.14	0.16	-0.08	0.18	0.19	0.25	0.29	0.32	0.35	0.31
40.5	0	0.03	0.02	0.01	0.03	0.04	-0.02	0.03	0.01	-1.2	0	0.02	0.02	0.12	0.16	0.18	0.11	0.15	0.12	0.11	0.16	0.18	0.21	0.46	1.24	0.16	0.19	0.24	0.26	0.29	0.33	0.26
41	0	0.07	0.11	0.1	0.13	0.12	0.02	0.09	0.1	-2.3	0.1	0.13	0.06	-0.07	-0.05	-0.05	0.01	-0.03	-0.05	0.01	-0.04	-0.05	-0.01	-0.03	0.43	0.07	-0.01	0.04	0.11	0.1	0.12	0.08
41.5	0	0.03	0	0	0.02	0.01	-0.03	-0.02	-0.02	-2.8	-0.02	0.01	-0.01	-0.02	-0.05	-0.06	-0.08	-0.06	-0.09	-0.09	-0.09	-0.08	-0.06	-0.07	0.51	-0.05	-0.05	-0.03	-0.01	0.05	0.06	0.02
42	0	0.05	0.03	0.03	0.01	0	-0.07	-0.03	-0.05	-3.39	-0.05	-0.04	-0.08	-0.09	-0.09	-0.08	-0.14	-0.15	-0.17	-0.18	-0.17	-0.15	-0.14	-0.16	0.34	-0.16	-0.18	-0.16	-0.15	-0.13	-0.13	-0.2
42.5	0	0.02	0.01	0.01	0.02	0.01	-0.05	-0.03	-0.02	-4.05	-0.03	-0.04	-0.07	-0.12	-0.15	-0.18	-0.26	-0.28	-0.3	-0.36	-0.4	-0.43	-0.51	-0.51	-1.97	-0.48	-0.63	-0.62	-0.69	-0.8	-0.9	-1.1
43	0	0.01	-0.14	-0.18	-0.25	-0.29	-0.37	-0.41	-0.49	-4.45	-0.47	-0.6	-0.7	-1.43	-1.63	-1.86	-2.12	-2.4	-2.74	-2.96	-3.13	-3.22	-3.38	-3.63	8.62	-4.08	-4.16	-4.31	-4.4	-4.4	-4.53	-5.18
43.5	0	-0.03	0.3	0.34	0.61	0.68	0.69	0.99	1.15	-4.29	1.1	1.58	1.95	5.93	6.97	8.29	9.76	11.62	13.3	14.68	15.83	17.04	18.31	18.95	25.92	20.31	21.65	23.02	24.52	26.41	28.08	30.54
44	0	0.26	1.44	1.53	2.01	2.29	2.43	2.95	3.25	-3.67	3.32	3.77	4.6	13.18	15.26	16.88	18.67	21.33	24.19	25.84	26.87	27.5	28.46	29.5	12.03	31.35	31.61	32.35	32.66	32.98	33.41	35.16
44.5	0	0.15	1.02	1.1	1.18	1.26	1.41	1.43	1.53	-4.16	1.55	1.4	1.46	4.12	2.57	1.75	0.68	-0.13	0.54	-0.92	-1.09	-2.76	-4.3	-4.88	-17.35	-6.1	-7.61	-7.93	-10.41	-12.22	-13.01	-16.22
45	0	0	-0.25	-0.28	-0.79	-1.02	-1.22	-1.6	-1.9	-5.41	-1.96	-2.42	-3.08	-9.21	-11.3	-12.86	-14.82	-17.42	-20.03	-21.78	-22.83	-23.87	-25.02	-25.87	-26.73	-27.43	-28.2	-29.08	-30.04	-30.88	-31.81	-33.9
45.5	0	-0.12	-1.32	-1.57	-2.31	-2.6	-2.93	-3.2	-3.5	-6.9	-3.58	-3.87	-4.46	-11.73	-12.98	-13.53	-14.28	-15.7	-17.53	-18.53	-18.88	-18.88	-19.07	-19.34	-19.15	-19.7	-19.5	-19.36	-19.23	-18.8	-18.56	-18.62
46	0	-0.1	-0.85	-0.94	-0.96	-1.01	-1.14	-1.02	-1.05	-6.82	-1.07	-0.84	-0.85	-2.47	-2.29	-1.92	-1.55	-1.12	-0.85	-0.59	-0.33	0.13	0.45	0.55	0.99	0.74	1.17	1.72	2.35	3.02	3.58	4.27
46.5	0	-0.05	0.42	0.76	1.56	1.78	1.86	2.09	2.18	-5.85	2.2	2.38	2.55	3.23	3.59	3.87	4.18	4.54	5	5.34	5.5	5.64	5.86	6.06	6.16	6.49	6.45	6.66	6.75	6.77	6.85	7.12
47	0	0.05	-0.12	-0.13	-0.26	-0.29	-0.23	-0.26	-0.26	-6.8	-0.21	-0.39	-0.43	-0.48	-0.56	-0.57	-0.65	-0.63	-0.61	-0.63	-0.6	-0.6	-0.59	-0.59	-0.56	-0.49	-0.57	-0.52	-0.53	-0.58	-0.63	-0.73
47.5	0	0.04	0.16	0.22	0.25	0.3	0.33	0.45	0.49	-5.75	0.5	0.54	0.66	0.98	1.21	1.59	1.96	2.45	2.82	3.11	3.37	3.61	3.83	3.97	4.12	4.18	4.26	4.43	4.55	4.7	4.81	4.92
48	0	0.02	0.25	0.3	0.26	0.26	0.28	0.36	0.39	-5.24	0.43	0.38	0.52	0.81	0.95	1.27	1.59	2	2.36	2.62	2.82	2.94	3.11	3.24	3.24	3.48	3.35	3.35	3.3	3.13	3.03	2.94
48.5	0	0.01	-0.06	-0.11	-0.34	-0.46	-0.56	-0.62	-0.71	-5.72	-0.73	-0.81	-0.94	-1.26	-1.5	-1.82	-2.25	-2.66	-2.91	-3.2	-3.43	-3.73	-3.9	-4	-4.14	-4.03	-4.32	-4.45	-4.58	-4.77	-4.94	-5.2
49	0	0	-0.54	-0.6	-0.85	-0.9	-0.99	-1.1	-1.25	-6.34	-1.25	-1.44	-1.64	-2.17	-2.51	-3.11	-3.75	-4.38	-4.95	-5.4	-5.78	-6.01	-6.3	-6.58	-6.62	-6.88	-7.03	-7.03	-7.05	-7.01	-7.06	-7.23
49.5	0	-0.01	-0.56	-0.57	-0.3	-0.12	-0.23	-0.2	-0.31	-6.3	-0.35	-0.33	-0.45	-0.72	-0.76	-0.89	-1.01	-1.12	-1.28	-1.36	-1.42	-1.34	-1.34	-1.43	-1.37	-1.54	-1.49	-1.33	-1.24	-1.06	-0.92	-0.96
50	0	0.04	0.39	0.29	0.02	-0.2	-0.51	-0.46	-0.52	-8.81	-0.53	-0.4	-0.4	-0.28	-0.06	0.13	0.24	0.34	0.46	0.58	0.68	0.88	1.03	1.04	1.22	1.12	1.15	1.32	1.44	1.48	1.58	1.7
50.5	0	0.02	-0.03	0.04	0.05	0.11	0.23	0.3	0.34	-8.81	0.39	0.32	0.34	0.43	0.48	0.57	0.6	0.65	0.66	0.59	0.56	0.48	0.43	0.45	0.43	0.55	0.36	0.33	0.36	0.25	0.24	0.19
51	0	-0.01	-0.18	-0.13	-0.16	-0.12	-0.07	-0.03	-0.07	-7.65	-0.03	-0.22	-0.26	-0.18	-0.17	-0.18	-0.26	-0.26	-0.26	-0.35	-0.38	-0.43	-0.48	-0.52	-0.53	-0.53	-0.66	-0.67	-0.68	-0.75	-0.8	-0.86
51.5	0	0.02	0.03	0.08	0.11	0.17	0.22	0.25	0.24	-6.8	0.26	0.2	0.26	0.21	0.1	0.12	0.09	0.14	0.18	0.18	0.17	0.17	0.2	0.22	0.22	0.34	0.27	0.29	0.34	0.27	0.28	0.31
52	0	0.01	-0.14	-0.11	-0.27	-0.31	-0.32	-0.35	-0.4	-6.19	-0.38	-0.54	-0.59	-0.76	-0.94	-0.97	-1.12	-1.16	-1.21	-1.26	-1.32	-1.34	-1.38	-1.4	-1.4	-1.39	-1.61	-1.52	-1.53	-1.34	-1.57	-1.63

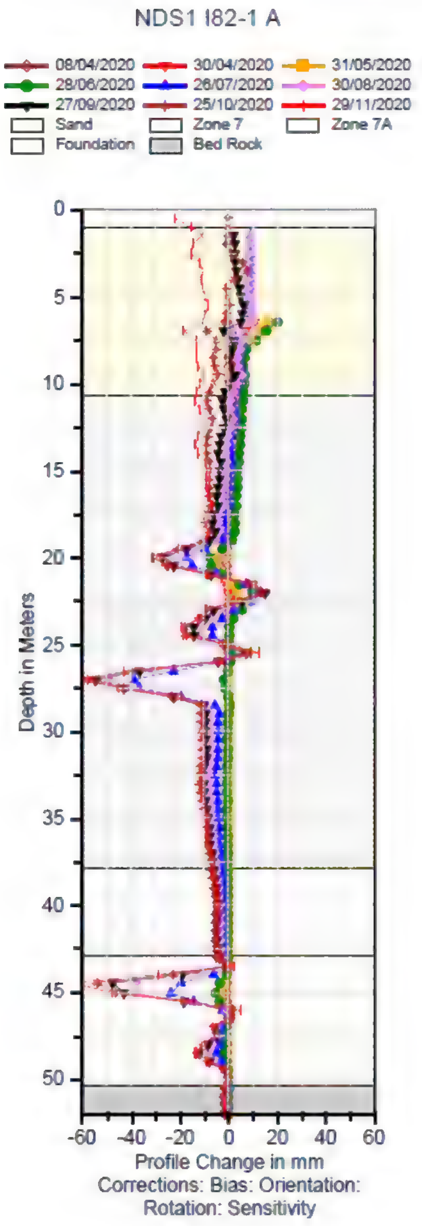
Site: NDS1
Installation: I82-1
Survey Date: 29/11/2020 11:16:42 AM
A0 Direction: 0
Description: Downstream
Survey Type: Inclinometer
Num Passes: 2
Depth Units: Meters

Checksum Analysis for Survey:
A Mean: -0.92 B Mean: 1.43
A Std.Dev: 0.26 B Std.Dev: 0.30

Depth	A0	A180	A Sum	B0	B180	B Sum
0.5	-8.74	7.72	-1.02	6.86	-5.30	1.57
1.0	-2.37	1.60	-0.77	8.64	-7.33	1.31
1.5	1.63	-2.61	-0.98	6.62	-5.22	1.41
2.0	-2.38	1.42	-0.96	2.32	-0.91	1.41
2.5	-7.83	6.88	-0.95	-1.98	3.47	1.49
3.0	-9.39	8.35	-1.04	-1.10	2.49	1.39
3.5	-11.98	10.94	-1.04	-1.94	3.09	1.16
4.0	-1.90	1.03	-0.87	0.53	1.31	1.84
4.5	4.63	-5.52	-0.89	-0.80	1.72	0.92
5.0	26.21	-27.13	-0.92	-7.01	8.78	1.77
5.5	36.92	-37.79	-0.87	-2.22	4.55	2.33
6.0	32.64	-33.11	-0.48	15.53	-14.92	0.61
6.5	20.06	-20.98	-0.92	15.66	-14.54	1.12
7.0	7.35	-8.33	-0.99	6.51	-5.31	1.21
7.5	10.96	-12.00	-1.04	0.96	0.26	1.22
8.0	11.36	-12.25	-0.90	-6.29	7.61	1.33
8.5	4.34	-5.10	-0.76	-13.59	15.25	1.66
9.0	3.79	-4.79	-1.00	-0.68	2.12	1.45
9.5	26.19	-27.13	-0.95	7.12	-5.60	1.52
10.0	37.23	-37.95	-0.72	6.81	-5.94	0.87
10.5	50.43	-51.40	-0.97	-2.82	4.64	1.83
11.0	29.30	-30.47	-1.17	-7.63	9.29	1.66
11.5	19.03	-20.16	-1.13	-6.48	7.80	1.32
12.0	15.18	-16.00	-0.83	-7.15	8.54	1.39
12.5	17.28	-18.29	-1.01	-5.91	7.38	1.47
13.0	15.32	-16.18	-0.86	-5.81	7.13	1.32
13.5	10.42	-11.49	-1.08	-9.78	11.37	1.60
14.0	9.56	-10.35	-0.80	-11.87	12.99	1.12
14.5	11.80	-12.77	-0.97	-9.16	10.56	1.40
15.0	11.34	-12.42	-1.08	-7.91	9.39	1.49
15.5	10.69	-11.59	-0.90	-6.85	8.29	1.45
16.0	9.46	-10.45	-0.99	-3.66	4.97	1.32

16.5	8.63	-9.58	-0.95	-3.87	5.29	1.42
17.0	18.72	-19.72	-1.00	-9.42	10.40	0.98
17.5	14.78	-15.77	-0.99	-10.94	12.52	1.59
18.0	9.46	-10.27	-0.81	-1.12	2.70	1.58
18.5	12.35	-13.19	-0.85	5.22	-3.82	1.40
19.0	22.01	-22.94	-0.93	8.09	-6.66	1.44
19.5	21.61	-22.52	-0.91	9.74	-7.73	2.01
20.0	3.49	-4.82	-1.33	0.98	1.23	2.20
20.5	-9.74	8.73	-1.02	-12.37	13.58	1.21
21.0	-13.94	13.15	-0.79	-24.86	26.14	1.28
21.5	1.24	-1.85	-0.61	-27.67	29.34	1.67
22.0	18.84	-19.68	-0.84	-14.34	16.62	2.28
22.5	21.00	-21.98	-0.99	0.48	1.41	1.89
23.0	14.51	-15.13	-0.62	5.96	-5.13	0.83
23.5	19.05	-19.99	-0.94	-0.91	2.01	1.11
24.0	11.25	-12.34	-1.09	-11.36	12.75	1.39
24.5	-5.58	4.66	-0.92	-15.00	16.45	1.45
25.0	-2.19	1.55	-0.65	-9.81	11.34	1.53
25.5	24.78	-25.45	-0.68	-4.50	5.99	1.49
26.0	54.47	-55.16	-0.69	-7.52	8.52	1.00
26.5	31.86	-33.20	-1.35	-14.61	15.97	1.37
27.0	-8.21	7.09	-1.13	-12.34	13.83	1.49
27.5	-14.76	13.98	-0.79	-4.35	5.83	1.48
28.0	-1.89	1.03	-0.86	-1.70	3.15	1.45
28.5	7.45	-8.94	-1.49	-7.18	8.93	1.75
29.0	8.75	-9.65	-0.90	-10.99	12.52	1.53
29.5	6.97	-8.00	-1.03	-8.80	10.23	1.43
30.0	3.19	-4.04	-0.86	-8.88	10.32	1.45
30.5	1.35	-2.29	-0.94	-9.50	10.73	1.23
31.0	4.30	-5.35	-1.05	-11.27	12.68	1.42
31.5	9.26	-10.18	-0.93	-13.39	14.79	1.40
32.0	13.58	-14.67	-1.09	-15.54	16.74	1.21
32.5	14.77	-15.49	-0.72	-15.33	16.82	1.49
33.0	16.04	-16.92	-0.88	-12.53	13.98	1.45
33.5	16.46	-17.33	-0.87	-9.73	11.15	1.42
34.0	16.23	-17.19	-0.96	-8.35	9.73	1.39
34.5	13.21	-14.23	-1.02	-8.30	9.78	1.49
35.0	10.48	-11.46	-0.98	-6.36	7.83	1.47
35.5	10.32	-11.25	-0.93	-5.01	6.47	1.46
36.0	12.70	-13.72	-1.02	-4.10	5.51	1.41
36.5	12.16	-12.98	-0.82	-3.73	5.12	1.39
37.0	12.27	-13.17	-0.91	-5.88	7.33	1.46
37.5	9.75	-10.61	-0.86	-3.76	5.12	1.36
38.0	8.33	-9.39	-1.06	-2.98	4.29	1.32
38.5	6.23	-7.18	-0.95	-4.48	5.86	1.39
39.0	4.21	-5.11	-0.91	-6.27	7.66	1.39
39.5	2.57	-3.60	-1.03	-7.91	9.22	1.31

40.0	2.41	-3.31	-0.90	-8.94	10.36	1.42
40.5	1.77	-2.65	-0.89	-9.34	10.66	1.33
41.0	3.83	-4.84	-1.01	-10.03	11.43	1.40
41.5	4.70	-5.61	-0.92	-11.37	12.75	1.38
42.0	5.61	-6.59	-0.98	-12.82	14.19	1.37
42.5	6.17	-7.01	-0.85	-13.59	14.92	1.33
43.0	2.26	-3.28	-1.03	-12.55	13.94	1.39
43.5	40.12	-39.52	0.60	-23.93	24.25	0.32
44.0	45.32	-45.82	-0.50	-38.80	40.83	2.03
44.5	-7.99	5.51	-2.49	-26.00	28.55	2.55
45.0	-25.66	24.98	-0.68	-7.82	9.22	1.40
45.5	-9.29	8.37	-0.92	3.25	-1.91	1.34
46.0	16.01	-16.94	-0.93	2.01	-0.62	1.39
46.5	20.11	-20.99	-0.88	-3.07	4.31	1.24
47.0	11.80	-12.64	-0.84	-10.72	12.36	1.64
47.5	16.02	-16.96	-0.94	-5.05	6.47	1.42
48.0	12.97	-13.85	-0.88	-2.76	4.11	1.35
48.5	4.60	-5.51	-0.91	-13.69	15.17	1.48
49.0	3.42	-4.17	-0.75	-20.31	21.76	1.46
49.5	10.47	-11.31	-0.85	-14.09	15.41	1.32
50.0	17.80	-18.91	-1.11	-13.92	15.31	1.39
50.5	17.33	-18.11	-0.79	-15.53	16.96	1.43
51.0	13.44	-14.49	-1.05	-13.12	14.49	1.37
51.5	13.14	-14.17	-1.03	-14.20	15.62	1.42
52.0	9.45	-10.40	-0.95	-15.77	17.21	1.44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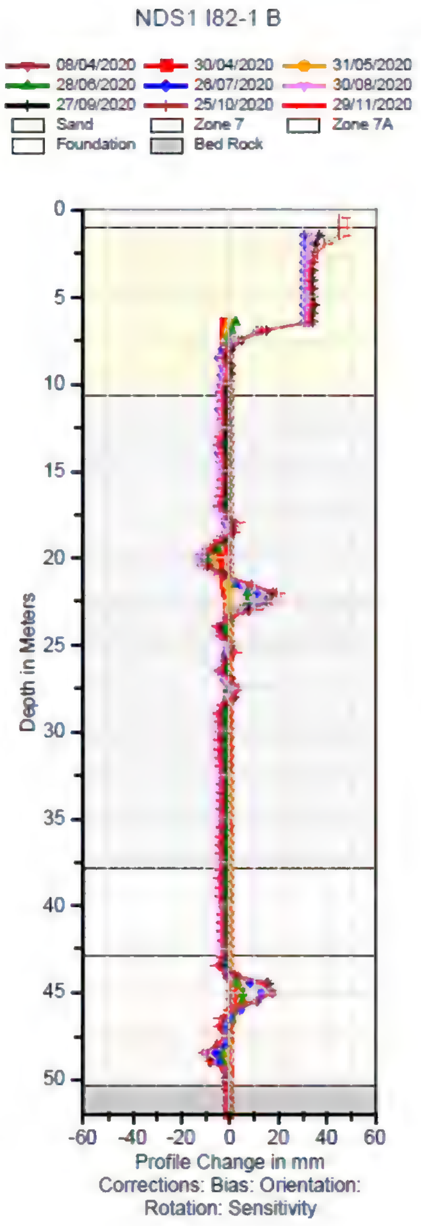
30/04/2020
31/05/2020
28/06/2020
26/07/2020
30/08/2020
27/09/2020
25/10/2020
29/11/2020
Sand
Zone 7
Zone 7A
Foundation
Bed Rock
Depth in Meters
0
5
10
15
20
25
30
35
40
45
50
-60
-40
-20
0
20
40
60
Profile Change in mm
Corrections: Bias: Orientation:
Rotation: Sensitivity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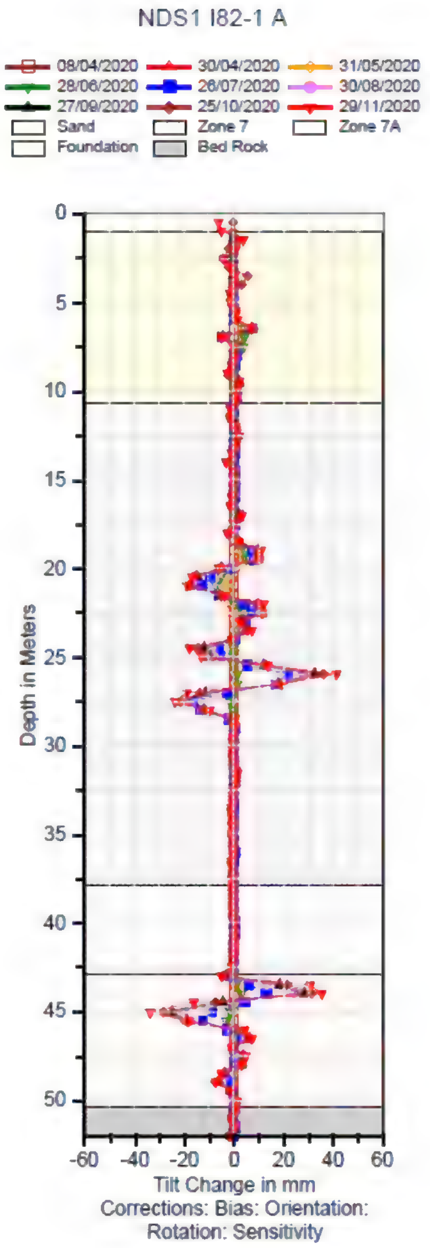
08/04/2020
30/04/2020
31/05/2020
28/06/2020
26/07/2020
30/08/2020
27/09/2020
25/10/2020
29/11/2020
Sand
Zone 7
Zone 7A
Foundation
Bed Rock
Depth in Meters
0
5
10
15
20
25
30
35
40
45
50
-60
-40
-20
0
20
40
60
Profile Change in mm
Corrections: Bias: Orientation:
Rotation: Sensitivity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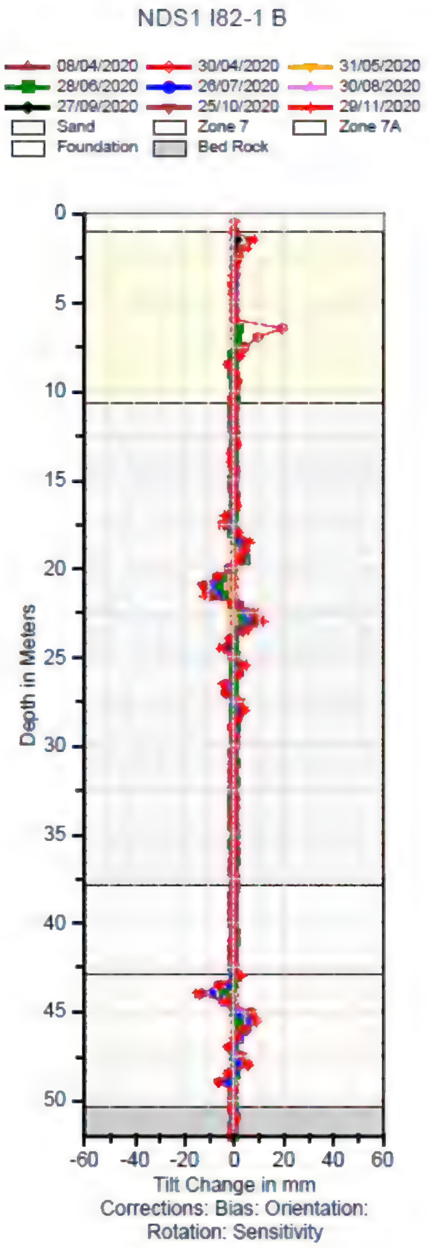
30/04/2020
31/05/2020
28/06/2020
26/07/2020
30/08/2020
27/09/2020
25/10/2020
29/11/2020
Sand
Zone 7
Zone 7A
Foundation
Bed Rock
Depth in Meters
0
5
10
15
20
25
30
35
40
45
50
-60
-40
-20
0
20
40
60
Tilt Change in mm
Corrections: Bias: Orientation:
Rotation: Sensitivity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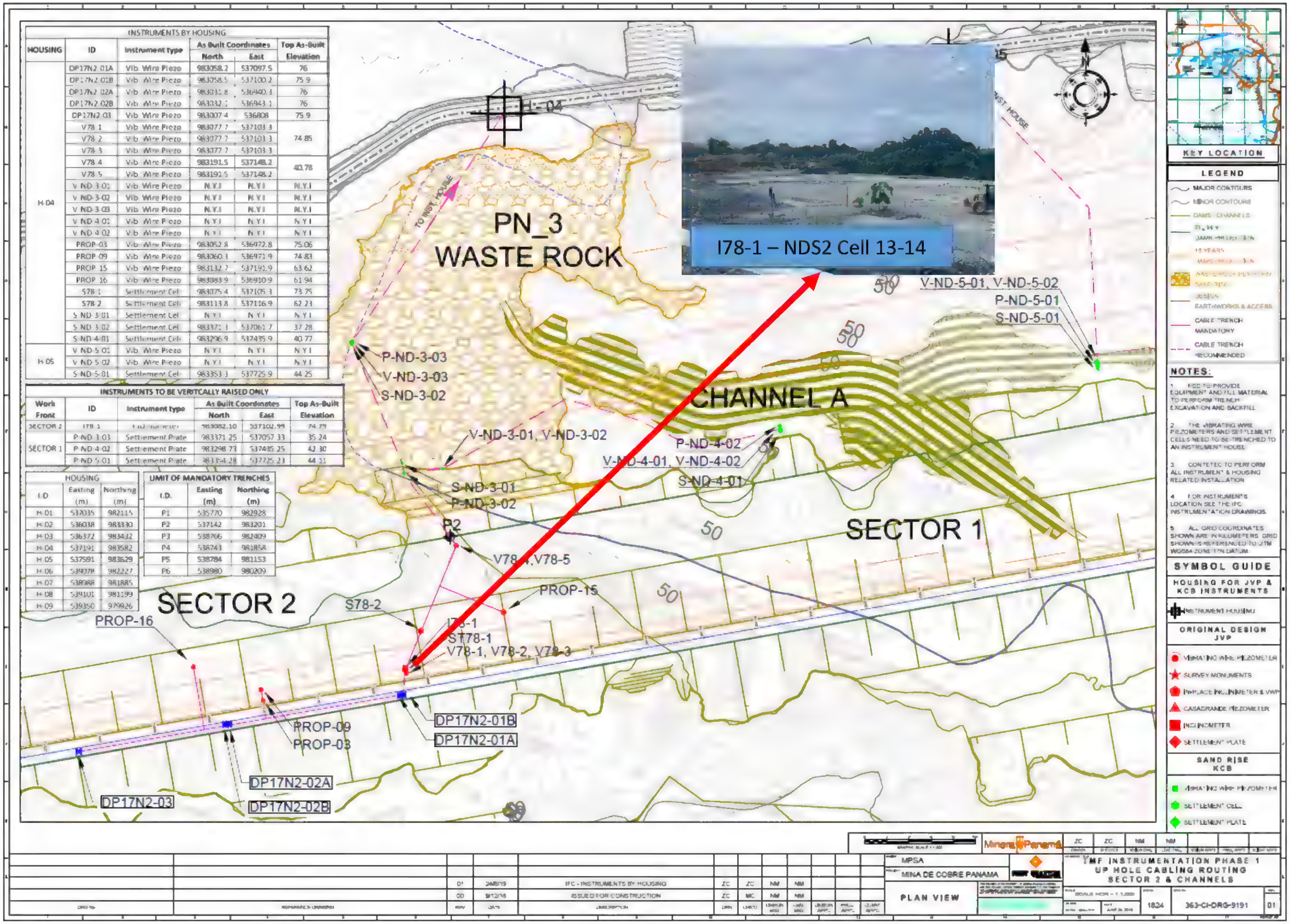
30/04/2020
31/05/2020
28/06/2020
26/07/2020
30/08/2020
27/09/2020
25/10/2020
29/11/2020
Sand
Zone 7
Zone 7A
Foundation
Bed Rock
Depth in Meters
0
5
10
15
20
25
30
35
40
45
50
-60
-40
-20
0
20
40
60
Tilt Change in mm
Corrections: Bias: Orientation:
Rotation: Sensitivity

I78-1


I78-1 – NDS2 Cell 13-14

PN_3
WASTE ROCK
CHANNEL A
SECTOR 1
SECTOR 2
TO INST. HOUSE
INST. HOUSE
H-04
P-ND-3-03
V-ND-3-03
S-ND-3-02
V-ND-3-01, V-ND-3-02
S-ND-3-01
P-ND-3-02
P2
V78-4, V78-5
PROP-15
S78-2
I78-1
ST78-1
V78-1, V78-2, V78-3
PROP-16
PROP-09
PROP-03
DP17N2-01B
DP17N2-01A
DP17N2-02A
DP17N2-02B
DP17N2-03
P-ND-4-02
V-ND-4-01, V-ND-4-02
S-ND-4-01
V-ND-5-01, V-ND-5-02
P-ND-5-01
S-ND-5-01
50
KEY LOCATION
LEGEND
MAJOR CONTOURS
MINOR CONTOURS
DAMS - CHANNELS
CABLE TRENCH MANDATORY
CABLE TRENCH RECOMMENDED
NOTES:
SYMBOL GUIDE
HOUSING FOR JVP & KCB INSTRUMENTS
INSTRUMENT HOUSING
ORIGINAL DESIGN JVP
SAND RISE KCB
SETTLEMENT CELL
SETTLEMENT PLATE
Minera Panamá
MPSA
MINA DE COBRE PANAMA
PLAN VIEW
TMF INSTRUMENTATION PHASE 1
UP HOLE CABLING ROUTING
SECTOR 2 & CHANNELS
1824
363-CI-DRG-9191
01

INSTRUMENTS BY HOUSING

HOUSING	ID	Instrument type	As Built Coordinates		Top As-Built Elevation
			North	East	
H-04	DP17N2-01A	Vib. Wire Piezo	983058.2	537097.5	76
	DP17N2-01B	Vib. Wire Piezo	983058.5	537100.2	75.9
	DP17N2-02A	Vib. Wire Piezo	983031.8	536940.3	76
	DP17N2-02B	Vib. Wire Piezo	983032.1	536943.1	76
	DP17N2-03	Vib. Wire Piezo	983007.4	536808	75.9
	V78-1	Vib. Wire Piezo	983077.7	537103.3	74.85
	V78-2	Vib. Wire Piezo	983077.7	537103.3	
	V78-3	Vib. Wire Piezo	983077.7	537103.3	
	V78-4	Vib. Wire Piezo	983191.5	537148.2	40.78
	V78-5	Vib. Wire Piezo	983191.5	537148.2	
	V-ND-3-01	Vib. Wire Piezo	N.Y.I	N.Y.I	N.Y.I
	V-ND-3-02	Vib. Wire Piezo	N.Y.I	N.Y.I	N.Y.I
	V-ND-3-03	Vib. Wire Piezo	N.Y.I	N.Y.I	N.Y.I
	V-ND-4-01	Vib. Wire Piezo	N.Y.I	N.Y.I	N.Y.I
	V-ND-4-02	Vib. Wire Piezo	N.Y.I	N.Y.I	N.Y.I
	PROP-03	Vib. Wire Piezo	983052.8	536972.8	75.06
	PROP-09	Vib. Wire Piezo	983060.3	536971.9	74.83
	PROP-15	Vib. Wire Piezo	983132.7	537191.9	63.62
	PROP-16	Vib. Wire Piezo	983083.9	536910.9	61.94
	S78-1	Settlement Cell	983075.4	537105.3	73.75
	S78-2	Settlement Cell	983113.8	537116.9	62.21
	S-ND-3-01	Settlement Cell	N.Y.I	N.Y.I	N.Y.I
	S-ND-3-02	Settlement Cell	983372.3	537061.7	37.28
	S-ND-4-01	Settlement Cell	983296.9	537435.9	40.77
H-05	V-ND-5-01	Vib. Wire Piezo	N.Y.I	N.Y.I	N.Y.I
	V-ND-5-02	Vib. Wire Piezo	N.Y.I	N.Y.I	N.Y.I
	S-ND-5-01	Settlement Cell	983353.3	537725.9	44.25

INSTRUMENTS TO BE VERITCALLY RAISED ONLY

Work Front	ID	Instrument type	As Built Coordinates		Top As-Built Elevation
			North	East	
SECTOR 2	I78-1	Inclinometer	983082.10	537102.99	74.79
SECTOR 1	P-ND-3-03	Settlement Plate	983371.25	537057.33	35.24
	P-ND-4-02	Settlement Plate	983298.73	537435.25	42.30
	P-ND-5-01	Settlement Plate	983354.28	537725.23	44.11

HOUSING

I.D	Easting (m)	Northing (m)
H-01	537035	982115
H-02	536038	983330
H-03	536372	983432
H-04	537191	983582
H-05	537591	983629
H-06	539078	982227
H-07	538988	981885
H-08	539101	981199
H-09	539350	979926

UNIT OF MANDATORY TRENCHES

I.D.	Easting (m)	Northing (m)
P1	535770	982928
P2	537142	983201
P3	538766	982409
P4	538743	981858
P5	538784	981153
P6	538980	980209

Depth	09/06/2019	29/01/2020	26/02/2020	08/03/2020	13/03/2020	16/03/2020	19/03/2020	02/04/2020	03/04/2020	05/04/2020	11/04/2020	23/04/2020	24/04/2020	30/04/2020	08/05/2020	28/05/2020	07/06/2020	14/06/2020	21/06/2020	28/06/2020	05/07/2020	12/07/2020	17/07/2020	26/07/2020	02/08/2020	09/08/2020	16/08/2020	23/08/2020	30/08/2020	06/09/2020	13/09/2020	20/09/2020	27/09/2020	04/10/2020	12/10/2020	18/10/2020	25/10/2020	01/11/2020	08/11/2020	15/11/2020	22/11/2020	29/11/2020
0.5																									0	1.05	1.41	1.64	1.7	1.9	1.98	2.16	1.93	1.97	2.14	2.25	1.82	2.73	3.06	2.23	2.55	2.46
1																									0	-0.77	1.24	1.25	1.61	1.84	1.62	2.16	2.11	2.13	2.17	2.25	2.24	2.33	2.21	2.11	2.38	2.28
1.5																									0	-0.04	-0.19	-0.41	-0.61	-0.66	-0.73	-0.76	-0.76	-0.8	-0.81	-0.76	-0.81	-0.87	-0.8	-0.83	-0.9	-0.96
2																									0	-0.14	-0.3	0.43	-0.56	-0.6	-0.63	-0.66	-0.64	-0.68	-0.67	-0.66	-0.55	-0.65	-0.54	-0.65	-0.71	-0.67
2.5																									0	-0.03	-0.25	-0.27	-0.44	-0.5	-0.49	-0.47	-0.56	-0.44	-0.56	-0.54	-0.43	-0.49	-0.55	-0.46	-0.49	-0.53
3																									0	-0.21	-0.28	0.35	-0.47	-0.51	-0.48	-0.49	-0.49	-0.44	-0.47	-0.45	-0.43	-0.37	-0.43	-0.41	-0.43	-0.37
3.5																								0	10.13	10.45	10.54	10.58	10.63	10.63	10.71	10.69	10.7	10.76	10.69	10.7	10.75	10.71	10.66	10.69	10.7	10.72
4																								0	3.17	3.59	3.57	3.73	3.8	3.84	3.54	3.9	3.88	3.82	3.9	3.87	3.89	3.9	3.86	3.89	3.91	3.94
4.5																								0	0.57	0.42	0.38	0.43	0.3	0.31	0.29	0.3	0.31	0.27	0.32	0.33	0.34	0.36	0.35	0.37	0.33	0.4
5																								0	-0.45	-0.45	-0.45	1.89	-0.38	-0.46	-0.4	-0.4	-0.42	-0.35	-0.38	-0.37	-0.35	-0.38	-0.4	-0.32	-0.39	-0.31
5.5																								0	1.49	1.33	1.28	2.42	1.24	1.23	1.22	1.21	1.23	1.17	1.17	1.16	1.11	1.17	1.15	1.18	3.13	0.48
6																								0	1	-0.91	-0.88	-0.72	-0.94	-0.98	-0.98	-0.98	-0.97	-0.98	-0.98	-0.95	-0.93	-0.96	-0.97	-0.95	-0.27	0.32
6.5	0	0.32	-0.24	1.62	1.18	1.97	1.75	0.98	1.34	-0.2	1.13	1.16	2.06	1.14	-0.39	-0.1	-0.66	2.73	0.43	-0.03	0.43	0.17	-8.23	-8.56	8.95	8.88	8.78	-6.4	-8.7	8.66	-8.68	-8.61	8.63	8.7	8.6	8.6	-8.65	8.63	8.58	8.6	-6.43	8.78
7	0	0.11	-0.06	-0.52	0.06	-0.23	-0.24	0.01	-0.35	-0.19	-0.52	-0.56	-0.68	-0.5	-0.31	-0.48	-0.54	-0.66	0.27	-0.22	0.31	0.05	3.49	3.33	3.4	3.31	3.18	2.23	3.13	3.15	3.12	3.13	3.15	3.13	3.14	3.14	3.15	3.15	3.15	3.17	2.11	5.27
7.5	0	0.04	0.01	-0.08	-0.04	-0.03	-0.06	-0.07	-0.1	-0.09	-0.13	-0.14	-0.13	-0.12	-0.12	-0.14	-0.16	-0.16	-0.08	-0.21	0.08	-0.05	0.02	0.19	0.34	0.48	0.49	-0.57	0.61	0.57	0.6	0.59	0.63	0.65	0.68	0.67	0.73	0.71	0.74	0.66	-0.43	-0.13
8	0	0.02	0.04	0.03	0.05	0.05	0.04	0.05	0.05	0.05	0.05	0.06	0.05	0.07	0.06	0.04	0.05	0.1	0.12	0.15	0.18	0.21	0.37	0.55	0.79	0.96	1.05	0.71	1.2	1.22	1.23	1.25	1.26	1.29	1.29	1.27	1.31	1.34	1.35	1.35	0.94	2.6
8.5	0	0.02	0.01	0.03	0.03	0.03	0.04	0.04	0.04	0.04	0.04	0.06	0.04	0.05	0.06	0.06	0.05	0.06	0.1	0.12	0.17	0.22	0.31	0.37	0.29	0.24	0.23	1.15	0.19	0.11	0.08	0.11	0.09	0.05	0.06	0.06	0	-0.03	-0.03	-0.02	0.63	0.66
9	0	-0.01	0	0.02	0.02	0.02	0.02	0.02	0.01	0.03	0.04	0.03	0.04	0.04	0.05	0.07	0.05	0.04	0.08	0.11	0.18	0.19	0.35	0.39	0.34	0.43	0.49	0.93	0.57	0.52	0.54	0.57	0.54	0.59	0.56	0.56	0.58	0.59	0.58	0.64	1.22	-0.45
9.5	0	-0.01	0	0.01	-0.01	-0.01	0.05	0.02	0.03	0.03	0.04	0.03	0.03	0.04	0.03	0.03	0	0.05	0.02	0.08	0.11	0.19	0.22	0.2	0.34	0.38	0.5	0.55	0.55	0.55	0.55	0.56	0.58	0.59	0.58	0.59	0.57	0.58	0.58	0.56	0.79	0.66
10	0	-0.06	-0.05	-0.04	-0.05	-0.05	-0.04	-0.03	-0.05	-0.03	-0.02	-0.03	-0.04	-0.04	0.01	-0.01	-0.01	-0.01	0.02	0.01	0.08	0.15	0.21	0.23	0.33	0.42	0.55	0.6	0.58	0.61	0.62	0.63	0.62	0.66	0.68	0.67	0.65	0.69	0.72	0.74	-0.07	0.78
10.5	0	0.1	0.11	0.12	0.13	0.14	0.13	0.12	0.12	0.14	0.15	0.16	0.14	0.13	0.16	0.17	0.22	0.14	0.17	0.21	0.25	0.26	0.35	0.38	0.38	0.52	0.54	0.56	0.57	0.55	0.56	0.54	0.55	0.57	0.59	0.54	0.57	0.54	0.53	0.58	-0.59	0.58
11	0	-0.02	-0.01	-0.01	-0.01	-0.02	-0.02	-0.01	-0.01	0	0.02	0.01	0.01	-0.01	0.02	0.03	0.02	-0.01	0	0.05	0.07	0.09	0.16	0.17	0.22	0.29	0.34	0.41	0.4	0.43	0.45	0.44	0.43	0.47	0.48	0.46	0.48	0.46	0.5	0.47	-0.5	0.52
11.5	0	0.03	0.03	0.06	0.06	0.06	0.04	0.07	0.07	0.05	0.09	0.08	0.06	0.08	0.06	0.05	0.07	0.07	0.07	0.07	0.07	0.13	0.18	0.16	0.2	0.24	0.19	0.23	0.21	0.2	0.21	0.19	0.18	0.2	0.19	0.17	0.16	0.15	0.18	0.19	0.13	0.22
12	0	0.02	0.06	0.06	0.06	0.08	0.07	0.07	0.08	0.07	0.08	0.07	0.09	0.07	0.09	0.11	0.1	0.09	0.08	0.07	0.09	0.14	0.21	0.31	0.38	0.7	1.09	1.13	1.16	1.08	1.09	1.06	1.03	1.04	1.06	1.05	1.06	1.05	1.06	0.99	0.53	1.04
12.5	0	-0.01	0.02	0.02	0.02	0	0.01	0	-0.01	-0.01	0.01	-0.02	0	0	0	0	0.01	0	0.01	0.02	0.04	0.09	0.07	0.08	0.12	0.17	0.26	0.3	0.27	0.33	0.35	0.37	0.41	0.43	0.41	0.42	0.43	0.46	0.46	0.5	0.46	0.49
13	0	-0.01	-0.01	-0.01	-0.03	-0.02	-0.02	-0.01	-0.02	-0.03	-0.01	0	-0.03	-0.01	-0.04	-0.01	-0.01	0	0.01	0.06	0.08	0.13	0.14	0.1	0.25	0.14	0.06	0.08	0.13	0.13	0.2	0.21	0.25	0.29	0.29	0.29	0.27	0.29	0.35	0.32	0.34	0.38
13.5	0	0	0.01	0.01	-0.01	-0.03	-0.02	0	0.01	0	-0.01	0.01	0	0.01	-0.01	-0.01	-0.01	0	-0.03	0.02	0.07	0.11	0.14	0.15	0.29	0.31	0.35	0.39	0.46	0.43	0.43	0.43	0.44	0.48	0.5	0.49	0.48	0.45	0.52	0.55	0.5	0.56
14	0	-0.08	-0.08	-0.09	-0.14	-0.13	-0.14	-0.14	-0.11	-0.13	-0.14	-0.11	-0.14	-0.13	-0.18	-0.2	-0.2	-0.16	-0.24	-0.18	-0.19	-0.17	-0.16	-0.25	-0.22	-0.33	-0.29	-0.29	-0.3	-0.33	-0.33	-0.36	-0.36	-0.38	-0.36	-0.36	-0.39	-0.4	-0.32	-0.39	-0.38	-0.35
14.5	0	0.01	0.01	0.04	-0.02	-0.04	-0.02	0.01	0.04	0	0	0.03	0.01	0.06	0	0	-0.03	0.03	0.02	0.04	0.08	0.14	0.19	0.25	0.43	0.64	0.81	0.84	0.97	0.97	1.04	1.07	1.06	1.11	1.16	1.17	1.17	1.15	1.17	1.17	1.2	1.23
15	0	0.09	0.11	0.1	0.14	0.23	0.14	0.15	0.13	0.15	0.14	0.14	0.16	0.15	0.19	0.18	0.28	0.19	0.16	0.23	0.1	0.45	0.41	0.64	0.78	0.96	1.05	1.14	1.18	1.22	1.21	1.24	1.24	1.24	1.24	1.25	1.27	1.31	1.3	1.3	1.32	1.41
15.5	0	0.02	0.03	0.04	0.03	0.04	0.04	0.03	0.01	0.05	0.05	0.02	0.03	0.05	0.04	0.06	0.05	0.03	0.03	0.08	0.12	0.15	0.18	0.25	0.41	0.52	0.66	0.72	0.76	0.79	0.84	0.92	0.93	0.97	1.01	1	-0.95	1.01	1.06	1.03	1.06	1.12
16	0	0.15	0.16	0.17	0.17	0.15	0.15	0.19	0.21	0.18	0.19	0.19	0.18	0.19	0.18	0.2	0.2	0.18	0.24	0.23	0.32	0.38	0.45	0.63	0.82	1.03	1.11	1.22	1.28	1.26	1.34	1.4	1.46	1.5	1.5	1.48	1.66	1.47	1.58	1.54	1.57	1.62
16.5	0	0.04	0.05	0.01	0.03	0.03	0.03	0.03	0	0.01	0.03	-0.01	0	-0.02	0.01	-0.01	0	0	0.01	0.05	0.04	0.06	0.08	0.02	-0.09	-0.07	-0.11	-0.09	-0.12	-0.17	-0.19	-0.2	-0.26	-0.27	-0.3	-0.3	1.42	-0.29	-0.28	-0.3	-0.33	-0.32
17	0	-0.11	-0.12	-0.11	-0.13	-0.12	-0.1	-0.13	-0.12	-0.11	-0.1	-0.13	-0.13	-0.12	-0.11	-0.13	-0.09	-0.15	-0.12	-0.1	-0.09	-0.08	-0.11	-0.2	-0.16	-0.21	-0.12	-0.15	-0.13	-0.06	-0.08	-0.03	-0.02	-0.03	0	0.01	0	-0.03	0.02	0.05	0.03	-0.03
17.5	0	0.12	0.12	0.12	0.13	0.1	0.11	0.13	0.14	0.12	0.14	0.12	0.13	0.14	0.12	0.15	0.04	0.12	0	0.14	0.11	0.36	0.48	1	1.45	1.75	2	2.11	2.03	1.81	1.92	1.92	1.81	1.59	1.55	1.55	1.62	1.63	1.63	1.64	1.62	1.59
18	0	-0.04	-0.03	-0.01	-0.01	0.05	0.07	-0.01	-0.02	-0.02	0.02	-0.02	-0.01	-0.03	0	0	0.13	-0.03	0.19	0.1	0.12	0.03	-0.01	-0.47	-0.87	1.1	1.37	1.47	1.93	2.78	3.02	3.29	3.59	3.91	4.17	-4.32	4.45	4.52	4.67	4.78	-4.89	5.3
18.5	0	-0.09	-0.1	-0.07	-0.11	-0.1	-0.1	-0.1	-0.07	-0.09	-0.07	-0.06	-0.07	-0.06	-0.1	-0.1	-0.09	-0.1	-0.09	-0.11	-0.13	-0.18	-0.28	-0.65	-0.84	1.04	1.21	1.34	1.44	1.55	1.74	1.89	1.95	1.94	1.99	2.11	2.26	2.51	2.5	2.54	2.61	2.77
19	0	0.02	0.04	0.05	0.01	0.01	0	0.03	0.04	0.04	0.04	0.06	0.06	0.06	0.04	0.05	0.04	0.06	0.03	0.08	0.1	0.2	0.22	0.41	0.72	1	1.27	1.48	1.99	2.87	3.08	3.32	3.64	3.97	4.18	4.33	4.41	4.44	4.62	4.66	4.75	5.11
19.5	0	0.03	0.04	0.05	0.07	0.06	0.05	0.05	0.06	0.04	0.08	0.06	0.08	0.07	0.06	0.08	0.11	0.08	0.1	0.11	0.15	0.22	0.23	0.32	0.41	0.51	0.62	0.7	0.88	1.12	1.24	1.38	1.54	1.74	1.84	1.97	2.16	2.3	2.42	2.55	2.66	2.99
20	0	0	0.01	0.02	0.01	0	0	0.01	0.02	0.01	0.01	0.02	0.01	0.01	0.01	0.01	0.02	0.03	-0.02	0.04	0.02	0.06	0.09	0.09	0.13	0.19	0.27	0.29	0.32	0.34	0.35	0.36	0.32	0.32	0.34	0.34	0.34	0.25	0.32	0.36	0.37	0.35
20.5	0	0.02	0.02	0.02	0.02	-0.03	-0.01	0.03	0.04	0.03	0	0.05	0.05	0.04	0.04	0.04	-0.07	0.06	0.05	0.04	0.11	0.09	0.23	0.2	0.24	0.28	0.33	0.36	0.37	0.38	0.38	0.38	0.42	0.4	0.39	0.41	0.41	0.42	0.46	0.44	0.44	0.43
21	0	0.03	-0.02	0.01	0.07	0.05	0.06	0.02	0.06	-0.01	0.12	0.05	0.07	0.05	0.04	0.07	0.16	0.09	0.08	0.13	0.13	0.22	0.19	0.38	0.44	0.53	0.58	0.62	0.66	0.66	0.67	0.69	0.69	0.69	0.69	0.71	0.75	0.75	0.77	0.74	0.73	0.81
21.5	0	0	0.01	0	0.02	0.01	0.01	0	0	0	0.02	0.02	0.01	0.02	0.02	0.03	0.03	0.02	0.08	0.06	0.12	0.13	0.24	0.28	0.41	0.55	0.67	0.75	0.83	0.9	0.93	0.92	0.95	0.94	1	0.99	0.98	0.96	0.98	1.03	1.07	1.08
22	0	0.12	0.13	0.12	0.16	0.14	0.13	0.17	0.16	0.17	0.17	0.17	0.19	0.2	0.21	0.19	0.19	0.2	0.19	0.23	0.27	0.35	0.46	0.81	1.13	1.53	1.84	2.11	2.32	2.49	2.58	2.69	2.76	2.83	2.92	2.93	2.98	3.01	3.1	3.13	3.21	3.38
22.5	0	0.07	0.07	0.04	0.11	0.1	0.13	0.1	0.07	0.09	0.1	0.05	0.08	0.05	0.11	0.11	0.14	0.1	0.25	0.19	0.27	0.24	0.22	0.06	-0.27	-0.5	-0.73	-0.85	1.03	1.19	1.26	1.26	1.34	1.35	1.43	1.41	1.38	1.31	1.4	1.47	3.42	1.54
23	0	-0.12	-0.13	-0.14	-0.12	-0.13	-0.13	-0.14	-0.12	-0.13	-0.11	-0.14	-0.13	-0.12	-0.14	-0.15	-0.14	-0.17	-0.13	-0.15	-0.16	-0.24	-0.31	-0.62	-0.71	1.03	1.27	1.47	1.58	1.73	1.8	1.88	1.95	2.03	2.04	2.1	2.14	2.19	2.24	2.28	-0.5	2.51
23.5	0	0.04	0.07	0.05	0	-0.02	0	0.03	0.1	0.08	0.02	0.09	0.09	0.08	0.05	0.06	0.02	0.09	0.05	0.04	0.08	0.1	0.18	0.21	0.31	0.42	0.57	0.61	0.65	0.71	0.73	0.76	0.79	0.8	0.85	0.81	0.85	0.86	0.86	0.88	0.94	0.97
24	0	-0.02	-0.07	0	0.13	0.07	0.03	0.04	-0.01	0	0.15	0.01	0.05	0.01	0.06	0.07	0.12	0.06	0.03	0.08	0.04	0.08	0.07	0.05	-0.1	-0.14	-0.17	-0.18	-0.21	-0.23	-0.24	-0.26	-0.25	-0.27	-0.26	-0.27	-0.27	-0.27	-0.28	-0.29	-0.28	-0.3
24.5	0	0.04	0.04	0.07	0.05	0.05	0.05	0.07	0.06	0.07	0.07	0.1	0.07	0.09	0.07	0.1	0.08	0.1	0.06	0.11	0.1	0.12	0.14	0.16	0.24	0.26	0.32	0.36	0.36	0.38	0.42	0.41	0.4	0.4	0.42	0.42	0.45	0.43	0.41	0.43	0.43	0.47
25	0	0.01	0.01	0.02	0.02	0.03	0.05	0.01	0.03	0.02	0.05	0.03	0.03	0.02	0.02	0.04	0.04	0.04	0.07	0.06	0.09	0.09	0.1	0.06	0.04	0.08	0.1	0.09	0.1	0.09	0.09	0.11	0.09	0.11	0.11	0.13	0.14	0.14	0.12	0.13	0.1	0.12
25.5	0	-0.01	-0.01	0	-0.02	0.01	-0.01	-0.03	0	-0.01	0	0.02	-0.01	0.01	0	0.01	0.01	0.01	-0.01	0.03	0.03	0.03	0.04	-0.01	-0.01	-0.06	-0.07	0.07	0.1	-0.09	-0.09	-0.1	-0.12	-0.1	-0.11	-0.09	-0.1	-0.13	-0.12	-0.13	-0.11	-0.12
26	0	0	-0.02	0.02	-0.01	-0.02	-0.02	0	0.01	0.01	0	0.03	0.01	0.02	0.01	0.02	0.02	0.02	-0.03	0	0.02	0.04	0.09	0.12	0.23	0.23	0.3	0.28	0.28	0.28	0.3	0.28	0.25	0.29	0.29	0.28	0.28	0.27	0.23	0.29	0.26	0.3
26.5	0	0.12	0.11	0.12	0.03	0.12	0.15	0.13	0.2	0.18	0.07	0.11	0.12	0.12	0.15	0.15	0.09	0.18	0.18	0.2	0.24	0.27	0.31	0.33	0.4	0.56	0.69	0.8	0.88	0.98	1.04	1.08	1.11	1.13	1.24	1.19	1.19	1.21	1.26	1.26	1.27	1.35
27	0	-0.11	-0.08	-0.07	-0.05	-0.09	-0.09	-0.08	-0.06	-0.1	0.02	-0.03	-0.02	-0.02	-0.05	-0.06	-0.03	-0.04	-0.08	-0.07	-0.09	-0.1	-0.13	-0.14	-0.16	-0.23	-0.35	-0.37	-0.37	-0.38	-0.43	-0.45	-0.47	-0.46	-0.5	-0.48	-0.48	-0.51	-0.51	-0.49	-0.53	-0.54
27.5	0	0.02	0.04	0.06	0.04	0.04	0.05	0.04	0.05	0.04	0.06	0.07	0.07	0.08	0.06	0.06	0.08	0.08	0.09	0.08	0.12	0.14	0.15	0.2	0.27	0.29	0.35	0.33	0.27	0.25	0.23	0.21	0.21	0.17	0.23	0.22	0.23	0.17	0.19	0.2	0.16	0.14
28	0	0.09	0.1	0.13	0.13	0.13	0.14	0.15	0.15	0.15	0.14	0.15	0.17	0.16	0.17	0.17	0.2	0.21	0.22	0.22	0.26	0.31	0.36	0.49	0.47	0.65	0.65	0.74	0.75	0.78	0.8	0.81	0.82	0.84	0.82	0.84	0.9	0.9	0.93	0.94	0.91	0.97
28.5	0	0	-0.01	-0.04	-0.06	-0.06	-0.06	-0.04	-0.02	-0.03	-0.03	-0.02	-0.03	0	-0.04	-0.06	-0.05	-0.02	-0.07	-0.05	-0.08	-0.14	-0.22	-0.46	-0.5	-0.78	-0.99	1.13	1.2	1.28	1.29	1.33	1.34	1.34	1.39	1.41	1.38	1.42	1.41	1.47	1.48	1.56
29	0	0	0	-0.01	0	-0.03	-0.05	-0.02	-0.01	-0.02	-0.02	0.01	0	0.02	-0.01	-0.03	-0.04	0.01	-0.14	-0.04	-0.12	-0.12	-0.15	-0.13	-0.07	0.01	0.11	0.12	0.14	0.09	0.24	0.25	0.25	0.23	0.29	0.25	0.24	0.23	0.26	1.55	0.28	0.26
29.5	0	0.03	0.07	0.02	0.01	0.05	0.09	0.06	0.04	0.09	-0.06	0.01	0	-0.01	0.03	0.04	0	0.04	0.13	0.14	0.14	0.15	0.17	0.09	0.12	0.18	0.25	0.3	0.32	0.32	0.34	0.37	0.41	0.41	0.45	0.4	0.37	0.43	0.47	0.04	0.49	0.51
30	0	-0.04	-0.05	-0.13	0.03	0	0	0	0.01	0	0.11	-0.01	0.06	0.02	0.04	0.03	0.02	0.03	0.02	0.03	0.02	0.02	0.03	0.05	0.03	-0.03	-0.14	-0.19	-0.22	-0.27	-0.33	-0.37	-0.43	-0.39	-0.51	-0.45	-0.42	-0.42	-0.45	-0.28	-0.53	-0.49
30.5	0	0	0.02	0.02	0.03	0.04	0.04	0.02	0.01	0.04	0.02	0.04	0.03	0.04	0.04	0.04	0.06	0.02	0.09	0.06	0.1	0.09	0.11	0.07	-0.02	-0.01	-0.03	0	-0.02	-0.02	-0.04	-0.03	-0.02	-0.02	-0.05	-0.03	-0.01	0.02	0.01	0.28	-0.02	-0.01
31	0	0.03	0.04	0.04	0.07	0.07	0.08	0.05	0.05	0.06	0.08	0.05	0.05	0.07	0.09	0.08	0.11	0.08	0.18	0.13	0.17	0.15	0.15	0.13	0.05	-0.01	-0.07	-0.06	-0.08	-0.07	-0.04	0.01	-0.01	0.04	0.03	0.04	0.04	0.1	0.08	0.55	0.08	0.08
31.5	0	0.02	0.02	0.02	0.04	0.04	0.05	0.03	0.03	0.03	0.06	0.01	0.03	0.01	0.04	0.05	0.06	0.03	0.12	0.07	0.1	0.04	0.01	-0.08	-0.18	-0.22	-0.25	-0.27	-0.31	-0.29	-0.3	-0.28	-0.32	-0.31	-0.32	-0.32	-0.3	-0.3	-0.29	0.71	-0.33	-0.34
32	0	0.07	0.08	0.09	0.11	0.14	0.13	0.11	0.12	0.12	0.13	0.1	0.11	0.11	0.14	0.15	0.15	0.13	0.26	0.2	0.21	0.25	0.31	0.32	0.28	0.29	0.29	0.32	0.32	0.31	0.32	0.31	0.3	0.37	0.28	0.29	0.32	0.35	0.32	0.81	0.3	0.35
32.5	0	0.01	0.07	0.03	0.02	0.16	0.17	0.07	0.03	0.15	0	-0.01	-0.02	0	0.03	0.06	0.17	0.01	0.22	0.17	0.18	0.16	0.13	0.05	-0.25	-0.48	-0.72	-0.68	-0.72	-0.76	-0.95	-0.92	-0.99	-0.99	1.06	1	1.03	-0.85	-0.88	0.7	1	1.01
33	0	0	-0.05	-0.03	0	-0.06	-0.07	-0.07	0	-0.04	0.09	0.08	0.11	0.12	-0.01	-0.04	-0.06	0.05	-0.1	-0.09	-0.11	-0.12	-0.16	-0.18	-0.1	-0.09	-0.02	-0.11	-0.2	-0.17	-0.11	-0.19	-0.17	-0.15	-0.16	-0.23	-0.22	-0.38	-0.34	-0.58	-0.29	-0.39
33.5	0	0.04	0.04	0.06	0.05	0.05	0.05	0.05	0.06	0.06	0.07	0.05	0.05	0.04	0.05	0.05	0.07	0.05	0.08	0.02	0.05	0.02	-0.03	-0.01	0.01	0.03	0.03	0.01	0.01	0.01	-0.04	-0.01	-0.03	-0.02	-0.01	-0.02	0	-0.01	0	-0.1	-0.02	-0.04
34	0	0.04	0.04	0.04	0.04	0.05	0.04	0.03	0.05	0.05	0.05	0.03	0.04	0.05	0.05	0.04	0.06	0.05	0.09	0.1	0.11	0.1	0.13	0.13	0.11	0.09	0.16	0.18	0.18	0.19	0.17	0.2	0.19	0.19	0.18	0.2	0.22	0.21	0.25	0.21	0.21	0.22
34.5	0	0.01	0.03	0.02	0.02	0.02	0.02	0	0.02	0.03	0.04	0.03	0.03	0.03	0.03	0.03	0.04	0.05	0	0.03	-0.01	0.03	0.05	0.09	0.17	0.2	0.26	0.28	0.29	0.28	0.31	0.28	0.32	0.34	0.35	0.33	0.31	0.31	0.34	0.31	0.35	0.35
35	0	0.07	0.08	0.1	0.06	0.05	0.04	0.07	0.1	0.07	0.08	0.1	0.11	0.12	0.1	0.09	0.08	0.11	0.02	0.07	0.03	0.01	-0.01	-0.04	-0.01	-0.03	-0.08	0.09	-0.11	-0.07	-0.07	-0.11	-0.1	-0.06	-0.1	-0.12	-0.09	-0.08	-0.05	-0.08	-0.09	-0.1
35.5	0	-0.01	-0.01	0.05	-0.04	-0.04	-0.04	-0.02	0.04	-0.03	-0.08	0	-0.03	0	0.01	0	-0.03	-0.04	-0.19	-0.09	-0.18	-0.17	-0.17	-0.2	-0.03	-0.04	0.05	0.05	0.1	0.11	0.12	0.07	0.12	0.11	0.11	0.05	0.08	0.05	0.06	0.05	0.06	-0.01
36	0	-0.03	0	-0.01	0	-0.04	-0.03	-0.01	-0.01	-0.04	0.01	0.06	0.07	0.08	0.01	-0.02	-0.03	-0.01	-0.24	-0.11	-0.22	-0.18	-0.22	-0.28	-0.25	-0.23	-0.32	0.38	-0.42	-0.41	-0.39	-0.46	-0.43	-0.43	-0.42	-0.44	-0.43	-0.53	-0.54	-0.48	-0.46	-0.52
36.5	0	0.03	0.03	0.04	0.05	0.03	0.03	0.05	0.06	0.01	0.07	0.08	0.08	0.09	0.05	0.02	0.03	0.06	-0.14	-0.04	-0.13	-0.09	-0.14	-0.17	-0.1	-0.13	-0.16	-0.21	-0.18	-0.16	-0.16	-0.2	-0.17	-0.18	-0.16	-0.21	-0.19	-0.23	-0.25	-0.2	-0.23	-0.26
37	0	0.02	0.02	0.03	0.03	0.03	0.05	0.03	0.03	0.03	0.04	0.02	0.03	0.03	0.04	0.04	0.05	0.05	0.08	0.06	0.07	0.03	0.04	0	-0.06	-0.1	-0.17	0.18	-0.23	-0.26	-0.27	-0.23	-0.28	-0.27	-0.3	-0.3	-0.28	-0.23	-0.26	-0.28	-0.3	-0.31
37.5	0	0.01	0.04	0.02	0.05	0.07	0.08	0.04	0.04	0.05	0.06	0.01	0.02	0.01	0.06	0.06	0.1	0.02	0.19	0.07	0.14	0.04	-0.01	-0.07	-0.31	-0.4	-0.58	-0.63	-0.7	-0.76	-0.79	-0.77	-0.83	-0.83	-0.86	-0.83	-0.82	-0.8	-0.8	-0.87	-0.83	-0.86
38	0	0.01	0.03	0.03	0.02	0.07	0.06	0.03	0.03	0.05	0.05	0.02	0.03	0.02	0.05	0.05	0.09	0.04	0.22	0.1	0.13	0.03	0.01	-0.16	-0.42	-0.58	-0.79	-0.85	-0.92	-0.99	1.04	1	1.11	1.09	1.14	1.12	1.1	1.06	1.09	1.16	1.13	1.16
38.5	0	-0.01	0.01	0.01	0	0.04	0.03	0.01	0.01	0.02	0.02	-0.08	-0.06	-0.1	0.04	0.02	0.05	0	0.11	0.03	0.05	-0.01	0	-0.11	-0.3	-0.37	-0.48	-0.52	-0.59	-0.71	-0.71	-0.63	-0.78	-0.77	-0.77	-0.77	-0.78	-0.63	-0.74	-0.79	-0.79	-0.82
39	0	0.02	0.04	0.03	0.01	0.01	0.01	0.01	0.03	0.02	0.04	0.03	0.04	0.05	0.03	0.03	0.03	0.01	-0.03	-0.03	-0.07	-0.1	-0.15	-0.14	-0.17	-0.21	-0.22	-0.24	-0.24	-0.14	-0.16	-0.17	-0.16	-0.15	-0.16	-0.16	-0.13	-0.18	-0.21	-0.16	-0.16	-0.15
39.5	0	0.04	0.03	0.05	0.01	0.02	0.02	0.03	0.04	0.03	0.04	0.03	0.05	0.03	0.03	0.03	0.03	0.02	-0.05	-0.01	-0.09	-0.14	-0.19	-0.27	-0.28	-0.37	-0.42	-0.47	-0.51	-0.53	-0.54	-0.57	-0.59	-0.6	-0.61	-0.6	-0.62	-0.61	-0.63	-0.64	-0.64	-0.66
40	0	0	0.01	-0.01	0.01	0.02	0.05	0	0.02	0.04	0.02	-0.01	-0.02	0	0.02	0.02	0.05	0.01	0.18	0.06	0.1	0.03	0.02	-0.09	-0.3	-0.38	-0.53	-0.6	-0.69	-0.77	-0.81	-0.77	-0.88	-0.88	-0.94	-0.91	-0.91	-0.88	-0.9	-0.97	1	1
40.5	0	0.04	0.05	0.06	0.04	0.07	0.35	0.06	0.06	0.1	0.09	0.05	0.07	0.07	0.09	0.08	0.1	0.07	0.19	0.1	0.16	0.13	0.1	0.04	-0.07	-0.15	-0.17	-0.21	-0.27	-0.3	-0.31	-0.34	-0.35	-0.35	-0.38	-0.4	-0.37	-0.41	-0.44	-0.44	-0.45	-0.45
41	0	0.04	0.03	0.03	0.04	0.04	1.64	0.03	0.04	0.03	0.05	0.05	0.05	0.06	0.06	0.06	0.04	0.06	-0.02	0.06	0.06	0.07	0.02	0.06	0.11	0.16	0.17	0.15	0.15	0.15	0.15	0.16	0.13	0.14	0.09	0.13	0.12	0.14	0.14	0.11	0.11	0.13
41.5	0	0.01	0.01	0.01	0.04	0.08	0.96	0.06	0.04	0.11	0.04	-0.02	0	-0.02	0.07	0.07	0.08	0.06	0.42	0.16	0.26	0.2	0.21	-0.02	-0.28	-0.46	-0.64	-0.79	-0.81	-0.94	1.13	-0.9	1.23	1.18	1.25	1.24	1.21	1.01	1.12	1.28	1.24	1.25
42	0	0.06	0.04	0.07	0.01	0	0.99	0.03	0.04	-0.01	0.04	0.1	0.1	0.11	0.06	0.04	0	0.03	-0.3	-0.05	-0.18	-0.13	-0.13	-0.11	-0.08	-0.3	-0.47	-0.56	-0.7	-0.65	-0.72	-0.77	-0.77	-0.75	-0.79	-0.76	-0.79	-0.86	-0.84	-0.78	-0.76	-0.84
42.5	0	0.04	0.03	0.04	0.04	0.02	-0.48	0.03	0.05	0.04	0.05	0.06	0.07	0.06	0.06	0.06	0.03	0.06	-0.01	0.02	-0.02	-0.08	-0.12	-0.14	-0.11	-0.12	-0.05	0	0.09	0.18	0.22	0.19	0.3	0.34	0.36	0.33	0.37	0.34	0.33	0.38	0.41	0.38
43	0	0.03	0.04	0.02	0.06	0.06	1.63	0.06	0.06	0.09	0.08	0.04	0.04	0.04	0.07	0.07	0.08	0.08	0.26	0.11	0.2	0.14	0.16	0.15	0.03	0.02	0	0.08	0.11	0.09	0.1	0.19	0.16	0.15	0.17	0.23	0.27	0.3	0.28	0.28	0.29	0.33
43.5	0	0.01	0.02	0.02	0.04	0.04	-0.27	0.07	0.04	0.08	0.04	0.02	0.02	0.02	0.07	0.06	0.08	0.05	0.33	0.12	0.21	0.14	0.17	0.12	-0.09	-0.13	-0.26	-0.28	-0.38	-0.34	-0.43	-0.38	-0.46	-0.44	-0.48	-0.4	-0.37	-0.31	-0.28	-0.38	-0.38	-0.36
44	0	-0.01	-0.01	0	0	-0.02	1.67	-0.02	-0.02	-0.02	0	-0.02	0.01	0	0.02	-0.04	-0.03	-0.06	-0.21	-0.11	-0.17	-0.24	-0.32	-0.43	-0.36	-0.48	-0.58	-0.66	-0.67	-0.61	-0.6	-0.71	-0.64	-0.64	-0.64	-0.66	-0.64	-0.72	-0.72	-0.65	-0.63	-0.68
44.5	0	0.03	0.03	0.04	0.06	-0.01	1.52	0	0.02	-0.02	0.05	0.07	0.09	0.08	0.05	0.04	0.03	0.03	-0.34	-0.09	-0.18	-0.21	-0.27	-0.2	0	0.05	0.14	0.01	0	0.06	0.09	-0.08	0.05	0.08	0.11	-0.01	0.03	-0.13	-0.1	-0.04	-0.03	-0.11
45	0	0	0.01	0	-0.01	-0.02	-0.52	-0.02	-0.01	-0.03	0.01	-0.02	-0.02	0	-0.01	-0.04	-0.05	-0.07	-0.17	-0.12	-0.17	-0.23	-0.28	-0.32	-0.37	-0.52	-0.63	-0.66	-0.68	-0.72	-0.78	-0.78	-0.87	-0.86	-0.9	-0.89	-0.87	-0.87	-0.86	-0.93	-0.96	-0.99
45.5	0	-0.01	0.01	0	-0.01	0.02	0.11	-0.02	-0.02	0.04	0	-0.05	-0.03	-0.04	0.01	-0.03	-0.03	-0.07	0	-0.09	-0.11	-0.19	-0.26	-0.42	-0.56	-0.7	-0.84	-0.89	-0.57	1.01	1.05	1.07	1.13	1.11	1.14	1.16	1.14	1.15	1.19	1.19	1.22	1.25
46	0	0.01	0.01	0.02	0.01	-0.01	0.61	-0.03	-0.01	-0.01	0.03	-0.01	0.01	0	0.01	-0.02	-0.01	-0.04	-0.18	-0.13	-0.2	-0.24	-0.3	-0.3	-0.33	-0.35	-0.35	-0.39	0.29	-0.39	-0.4	-0.46	-0.45	-0.42	-0.45	-0.44	-0.43	-0.47	-0.5	-0.49	-0.47	-0.5
46.5	0	0	0.01	0.02	-0.01	-0.01	0	-0.03	-0.02	0	0.02	-0.01	0.01	0.01	-0.01	-0.01	-0.03	-0.03	-0.13	-0.07	-0.11	-0.14	-0.17	-0.2	-0.14	-0.18	-0.19	-0.24	-0.26	-0.24	-0.25	-0.28	-0.3	-0.26	-0.29	-0.31	-0.28	-0.28	-0.33	-0.32	-0.33	-0.33
47	0	0	0.01	0	-0.01	0.01	0.29	-0.03	-0.01	0.02	0.03	-0.01	0	0.01	-0.01	-0.02	-0.01	-0.04	-0.05	-0.05	-0.08	-0.11	-0.15	-0.21	-0.25	-0.29	-0.29	-0.31	-0.36	-0.34	-0.37	-0.38	-0.42	-0.39	-0.43	-0.41	-0.39	-0.38	-0.43	-0.45	-0.45	-0.46
47.5	0	0	0.01	0.01	-0.01	0	-0.5	-0.03	0	0	0.01	-0.01	-0.01	0	-0.01	-0.03	-0.01	-0.04	-0.08	-0.04	-0.09	-0.13	-0.15	-0.22	-0.21	-0.23	-0.23	-0.27	-0.34	-0.34	-0.35	-0.36	-0.4	-0.33	-0.38	-0.37	-0.35	-0.36	-0.38	-0.39	-0.41	-0.4
48	0	-0.03	-0.03	-0.04	-0.01	-0.01	-0.01	-0.04	-0.02	0.01	-0.02	-0.05	-0.05	-0.05	-0.02	-0.04	-0.03	-0.04	0.09	-0.04	-0.03	-0.07	-0.11	-0.17	-0.27	-0.36	-0.45	-0.49	-0.48	-0.49	-0.52	-0.51	-0.61	-0.57	-0.6	-0.56	-0.52	-0.51	-0.54	-0.59	-0.61	-0.58
48.5	0	-0.01	-0.02	0.01	-0.01	0	-0.02	-0.03	-0.01	0	0.01	-0.02	-0.01	0.01	0	-0.03	-0.01	-0.03	-0.07	-0.02	-0.08	-0.04	-0.07	-0.11	-0.03	0	0.04	0.05	0.07	0.08	0.08	0.02	0.07	0.11	0.09	0.08	0.09	0.08	0.05	0.03	0.07	0.08
49	0	0.01	-0.02	-0.01	0	-0.02	-0.03	-0.02	-0.03	-0.03	0.01	0.03	0.02	0.05	0.01	0.01	0.02	-0.01	-0.2	-0.04	-0.09	-0.08	-0.1	-0.06	0.09	0.12	0.18	0.21	-0.7	0.26	0.28	0.22	0.23	0.24	0.25	0.21	0.26	0.26	0.22	0.22	0.24	0.25
49.5	0	0	0	0.01	-0.01	-0.01	-0.02	-0.03	-0.02	0	0.01	-0.01	0.01	0.02	0.01	-0.02	-0.01	-0.02	0	-0.01	-0.04	-0.03	-0.05	-0.07	-0.07	-0.07	-0.07	-0.1	-0.36	-0.06	-0.07	-0.11	-0.12	-0.08	-0.09	-0.1	-0.05	-0.07	-0.08	-0.12	-0.1	-0.09
50	0	-0.05	-0.03	-0.04	-0.03	0	-0.01	-0.04	-0.03	0.04	0	-0.04	-0.04	-0.05	-0.03	-0.06	-0.03	-0.05	0.06	0.03	-0.01	0.02	-0.03	-0.07	-0.25	-0.34	-0.42	-0.45	-0.46	-0.52	-0.51	-0.33	-0.59	-0.59	-0.59	-0.49	-0.48	-0.49	-0.19	-0.55	-0.59	-0.53

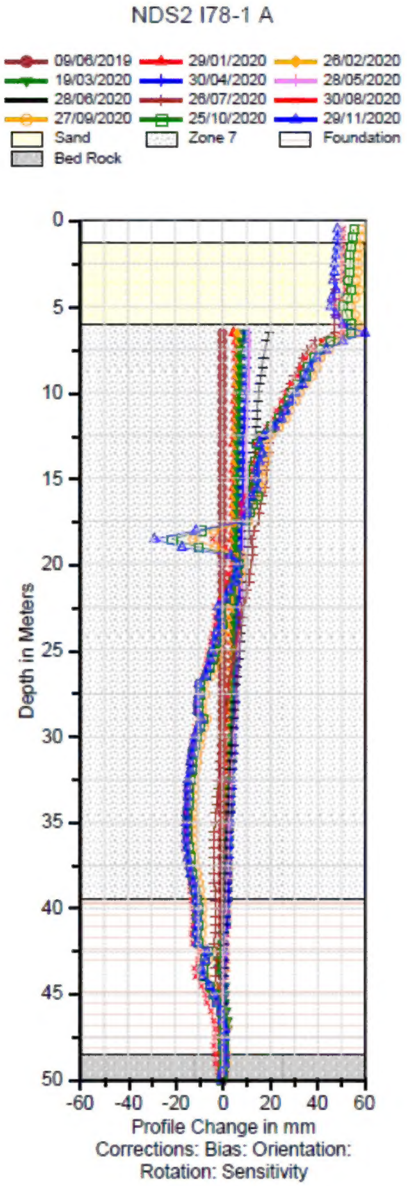
Site: NDS2
Installation: I78-1
Survey Date: 29/11/2020 9:41:41 AM
A0 Direction: 0
Description: Downstream
Survey Type: Inclinometer
Num Passes: 2
Depth Units: Meters

Checksum Analysis for Survey:
A Mean: -0.80 B Mean: 1.40
A Std.Dev: 1.92 B Std.Dev: 0.64

Depth	A0	A180	A Sum	B0	B180	B Sum
0.5	-5.72	4.73	-0.99	-3.98	5.35	1.37
1.0	-5.38	4.75	-0.63	-4.24	5.55	1.31
1.5	-6.96	6.11	-0.85	0.69	0.85	1.54
2.0	-3.44	2.64	-0.80	11.29	-9.90	1.40
2.5	-0.93	-0.10	-1.03	6.25	-5.10	1.15
3.0	3.47	-4.25	-0.78	-7.48	8.89	1.42
3.5	3.41	-4.08	-0.68	-6.29	7.67	1.38
4.0	3.66	-4.52	-0.86	0.52	0.86	1.38
4.5	1.17	-2.06	-0.89	4.01	-2.65	1.36
5.0	-3.89	2.92	-0.98	1.93	-0.41	1.52
5.5	-2.66	2.95	0.29	-0.33	-0.51	-0.84
6.0	14.52	1.81	16.33	-2.33	2.50	0.18
6.5	13.58	-15.27	-1.69	-0.89	2.94	2.05
7.0	6.67	-14.58	-7.91	2.58	2.38	4.96
7.5	5.08	-7.43	-2.36	4.56	-1.22	3.34
8.0	2.25	-6.03	-3.78	1.85	-3.06	-1.21
8.5	1.28	-3.00	-1.72	0.62	-0.51	0.11
9.0	4.08	-2.19	1.89	2.42	1.10	3.52
9.5	3.97	-4.89	-0.93	3.70	-2.26	1.44
10.0	3.28	-4.16	-0.88	4.02	-2.65	1.37
10.5	5.02	-5.86	-0.85	2.58	-1.26	1.32
11.0	5.34	-6.37	-1.04	0.31	1.07	1.38
11.5	7.46	-8.19	-0.73	-1.39	3.15	1.77
12.0	9.03	-10.08	-1.05	-1.45	2.53	1.08
12.5	5.12	-5.86	-0.74	-2.86	4.36	1.51
13.0	0.69	-1.47	-0.78	-3.06	4.53	1.47
13.5	2.89	-3.98	-1.09	-1.16	2.60	1.44
14.0	4.50	-5.21	-0.71	0.54	0.92	1.46
14.5	3.17	-3.98	-0.81	5.24	-3.12	2.12
15.0	5.95	-6.92	-0.97	6.94	-6.44	0.50
15.5	8.05	-8.91	-0.86	6.60	-5.15	1.45
16.0	6.81	-7.78	-0.98	6.17	-4.78	1.39

16.5	4.41	-5.27	-0.87	2.24	-0.85	1.39
17.0	3.62	-4.48	-0.86	0.95	0.47	1.42
17.5	20.27	-21.15	-0.89	4.41	-2.43	1.99
18.0	16.64	-17.07	-0.43	-4.07	5.32	1.26
18.5	-15.21	14.71	-0.51	-5.13	6.40	1.28
19.0	-26.10	25.24	-0.87	2.79	-1.51	1.28
19.5	-8.28	7.23	-1.05	3.97	-2.52	1.46
20.0	-1.71	0.82	-0.90	3.12	-1.72	1.40
20.5	2.11	-3.14	-1.03	4.47	-2.59	1.88
21.0	7.46	-8.39	-0.93	3.12	-2.21	0.91
21.5	6.39	-7.27	-0.89	1.77	-0.40	1.37
22.0	5.34	-6.25	-0.91	4.26	-2.91	1.35
22.5	1.14	-1.87	-0.73	-2.87	4.46	1.59
23.0	-0.72	-0.19	-0.90	-7.13	8.49	1.37
23.5	0.06	-1.01	-0.95	-3.12	4.90	1.78
24.0	0.87	-1.54	-0.68	-3.02	4.06	1.04
24.5	0.69	-1.63	-0.94	-1.78	3.21	1.43
25.0	0.68	-1.60	-0.92	-2.03	3.49	1.46
25.5	0.88	-1.78	-0.90	-2.21	3.66	1.46
26.0	0.97	-1.92	-0.96	-1.04	2.45	1.41
26.5	2.01	-3.06	-1.06	0.99	0.84	1.83
27.0	-0.42	-0.21	-0.62	-1.34	2.27	0.93
27.5	-0.50	-0.51	-1.00	-0.48	1.85	1.37
28.0	-2.42	1.58	-0.84	0.60	0.84	1.44
28.5	-5.26	4.40	-0.86	-2.15	3.57	1.42
29.0	-5.23	4.24	-0.99	1.65	-0.26	1.39
29.5	-7.03	6.06	-0.97	2.65	-0.91	1.74
30.0	-5.59	4.76	-0.83	1.50	-0.61	0.89
30.5	-4.50	3.61	-0.89	1.58	-0.19	1.39
31.0	-3.51	2.54	-0.97	0.87	0.60	1.46
31.5	-1.20	0.38	-0.82	-1.04	2.41	1.37
32.0	0.57	-1.41	-0.84	-1.77	3.13	1.37
32.5	0.18	-1.30	-1.12	-5.14	6.73	1.59
33.0	2.87	-3.70	-0.84	-4.80	5.79	0.99
33.5	2.34	-3.25	-0.91	-4.22	5.57	1.35
34.0	0.73	-1.53	-0.80	-4.91	6.32	1.41
34.5	-1.32	0.35	-0.97	-5.21	6.68	1.47
35.0	-3.89	3.15	-0.74	-5.15	6.51	1.36
35.5	-6.26	5.37	-0.90	-3.51	4.97	1.46
36.0	-7.90	7.11	-0.80	-0.77	2.07	1.31
36.5	-9.32	8.40	-0.93	1.87	-0.49	1.38
37.0	-8.94	8.12	-0.82	2.78	-1.41	1.37
37.5	-9.26	8.41	-0.85	0.16	1.19	1.35
38.0	-9.01	8.08	-0.93	-2.80	4.13	1.34
38.5	-7.86	6.91	-0.95	-4.72	6.02	1.30
39.0	-6.80	5.88	-0.92	-4.37	5.67	1.31
39.5	-6.10	5.29	-0.81	-3.96	5.33	1.37

40.0	-4.33	3.36	-0.97	-5.24	6.64	1.40
40.5	-2.86	2.05	-0.82	-6.82	8.26	1.44
41.0	-2.51	1.58	-0.94	-5.71	7.01	1.30
41.5	-0.86	-0.30	-1.16	-10.32	11.47	1.15
42.0	-4.23	3.29	-0.94	-8.35	9.89	1.54
42.5	0.88	-1.70	-0.82	-4.60	5.95	1.35
43.0	4.35	-5.43	-1.08	-5.20	6.71	1.51
43.5	3.12	-3.89	-0.77	-9.48	10.85	1.37
44.0	-2.60	1.79	-0.81	-11.11	12.45	1.34
44.5	-4.94	4.20	-0.74	-7.40	8.84	1.44
45.0	-4.39	3.37	-1.02	-5.08	6.55	1.47
45.5	-5.59	4.80	-0.79	-6.56	7.92	1.36
46.0	-5.83	4.90	-0.93	-5.54	6.97	1.43
46.5	-7.03	6.15	-0.88	-4.26	5.66	1.40
47.0	-6.15	5.22	-0.94	-4.26	5.66	1.40
47.5	-2.68	1.83	-0.85	-3.18	4.65	1.47
48.0	-3.41	2.55	-0.86	-4.55	5.96	1.41
48.5	-5.15	4.18	-0.97	-4.61	5.97	1.36
49.0	-1.09	0.17	-0.92	-2.14	3.66	1.52
49.5	2.98	-4.00	-1.03	-1.20	2.62	1.42
50.0	2.21	-3.10	-0.89	-2.32	3.76	1.45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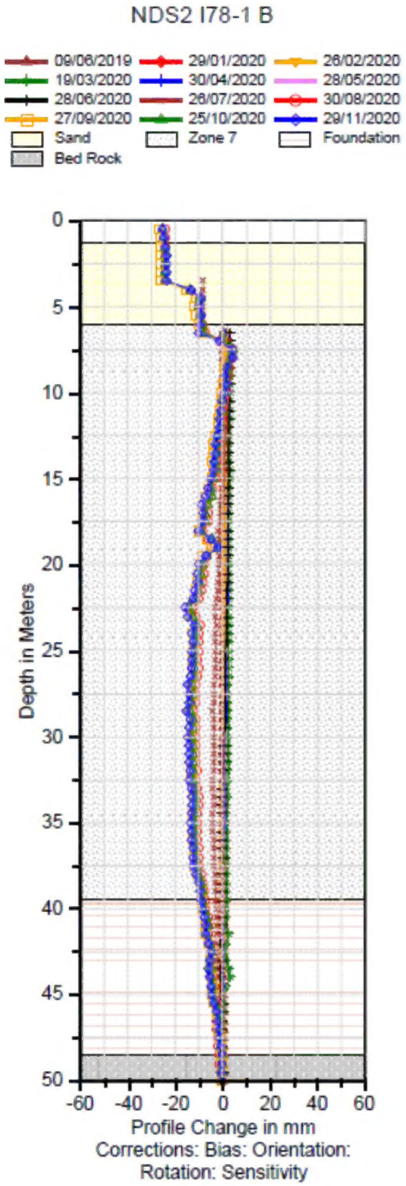
30/08/2020
27/09/2020
25/10/2020
29/11/2020
Sand
Zone 7
Foundation
Bed Rock
Depth in Meters
0
5
10
15
20
25
30
35
40
45
50
-60
-40
-20
0
20
40
60
Profile Change in mm
Corrections: Bias: Orientation:
Rotation: Sensitivity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30/08/2020
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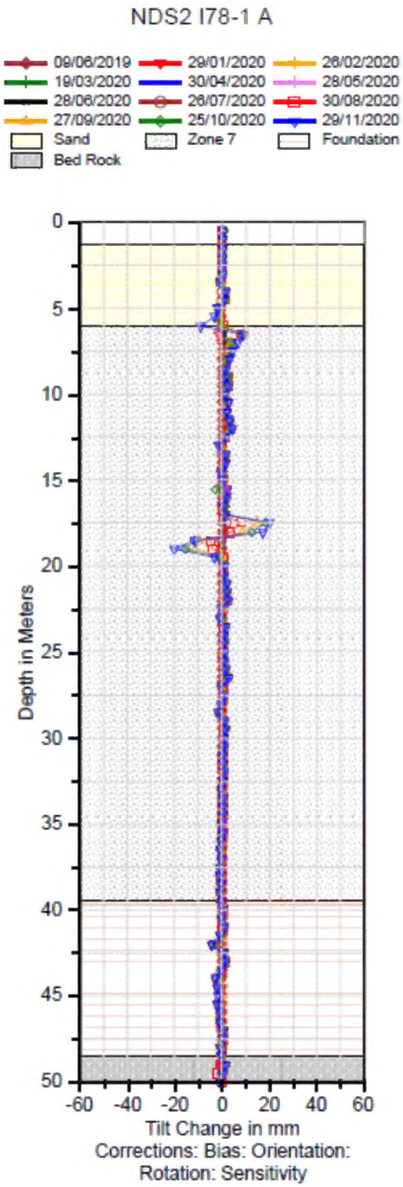
Profile Change in mm
Corrections: Bias: Orientation:
Rotation: Sensitivity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30/08/2020
27/09/2020
25/10/2020
29/11/2020
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Zone 7
Foundation
Bed Rock
Depth in Meters
0
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15
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45
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-60
-40
-20
0
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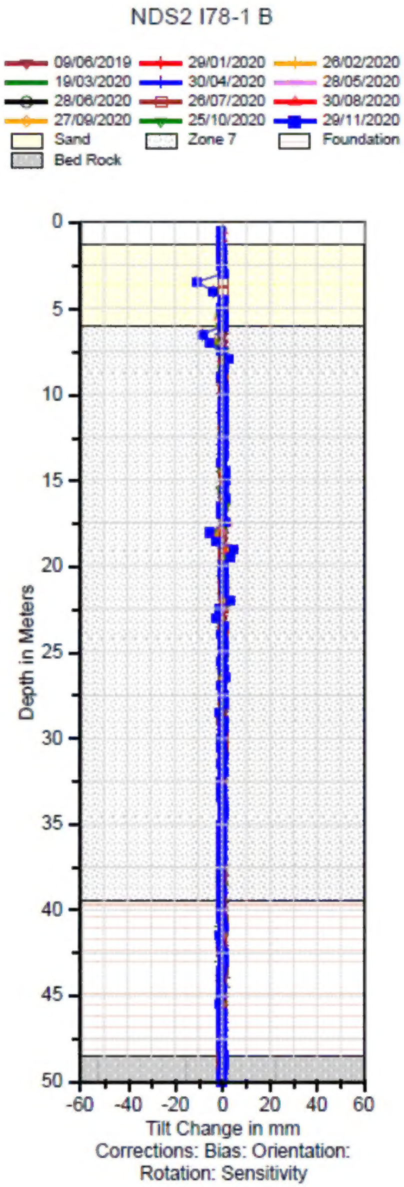
Tilt Change in mm
Corrections: Bias: Orientation:
Rotation: Sensitivity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30/08/2020
27/09/2020
25/10/2020
29/11/2020
Sand
Zone 7
Foundation
Bed Rock
Depth in Meters
0
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10
15
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45
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-60
-40
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Tilt Change in mm
Corrections: Bias: Orientation:
Rotation: Sensitivity

Reemplazo de Instrumentos

Reemplazo de Instrumentos			
Instrumento	**Tipo**	**Reemplazo**	**Comentarios**
PROP-C-6	Casagrande	Y	En la arena sin protección en la tubería de metal. Sin lectura. Están secos y tienen sedimento
PROP-C-7	Casagrande	Y	
PROP-C-8	Casagrande	Y	
PROP-C-9	Casagrande	Y	
PROP-V-5	VWP	Y	Dañado
PROP-V-2	VWP	Y	Presentan un movimiento extraño, y así se ha mantenido.
S65-2	Celda de Asentamiento	Y	Dañado
S78-2	Celda de Asentamiento	Y	
S73-1	Celda de Asentamiento	Y	
S82-2	Celda de Asentamiento	Y	Dañado
S84-1	Celda de Asentamiento	Y	
S84-2	Celda de Asentamiento	Y	
S84-3	Celda de Asentamiento	Y	Sin lectura
S-ED-1-02B	Celda de Asentamiento	Y	Dañado
S-ED-3-02	Celda de Asentamiento	Y	
S-ED-4-03	Celda de Asentamiento	Y	Dañado
S-ED-4-04	Celda de Asentamiento	Y	
S-ND-3-01	Celda de Asentamiento	Y	
S-ND-4-01	Celda de Asentamiento	Y	
S-ED-1-01	Celda de Asentamiento	Y	
S-ED-1-02	Celda de Asentamiento	Y	
I73-1	Inclinometro	Y	Obstruido, no permite lecturas después de 14m de profundidad

Reportes Diarios